Famous Artists Course

Famous Artists Schools, Inc., Westport, Connecticut

Studio production

Lesson 22

Albert Dorne
Fred Ludekens
Norman Rockwell
Al Parker
Ben Stahl
Stevan Dohanos
Jon Whitcomb
Robert Fawcett
Peter Helck
George Giusti
Austin Briggs
Harold Von Schmidt

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When his work at the drawing board is completed, the artist often meets with the production man and the printer to discuss methods of reproduction that will achieve the best results. To be effective here, the artist must have a thorough knowledge of printing terms and production.

Studio production

As a commercial artist, you are judged on the quality of your work. However, your original work is seen by relatively few people – while it may be seen by millions after it is printed. In other words, your work is more widely judged after it is reproduced – and it is not really "finished" until it is in print. To achieve the best printed results, you need a thorough understanding of the various methods of reproduction so that you know which one to use for a particular job and how to prepare your work for that method. The more you know about studio production, the more valuable you will be to your employers – and the more money you will eventually earn for yourself.

In this lesson we will acquaint you with three of the most common methods of reproduction – letterpress, offset lithography, and silk screen – and how your art work should be prepared for each one. There is a fourth method called gravure, but since art is prepared for gravure much as it is for offset, we will confine our demonstrations to the first three.

Art work for reproduction is divided into two general types – "line" and "tonal." Line art is composed of lines and areas of a solid color – usually black – and white; a pen and ink drawing is a typical example. Tonal art contains not just black and white, but also various tones of gray such as you see in a photo.

Mechanicals

In Lesson 21 we demonstrated many of the things you will be doing in your first job in an art studio or agency. Several of the procedures you learned in that lesson will eventually be applied to the making of mechanicals or paste-ups. A mechanical is the guide from which a printing plate is made. The exact size, color, and position of every element that is to appear in the finished printed piece are precisely indicated on this mechanical. Anything pasted on a mechanical – usually type proofs for reproduction (repro proofs) and small line drawings or glossy stats of line art – is considered "copy" for reproduction, unless otherwise marked.

Tonal art, whether to be reproduced same size, enlarged, or reduced, is not pasted down on the mechanical, but sent along as a separate piece. It is shown on the mechanical by a photostat or a lucy drawing, which has only one purpose – to indicate to the printer the exact size of the tonal art and the position it is to occupy in the printed piece.

Although photostats are extremely helpful in making a mechanical, they are not available everywhere. In place of stats, a lucy drawing or an accurate sketch can serve just as well to indicate the size and position of the tonal art.

In the course of this lesson we will demonstrate how to prepare different kinds of mechanicals. Mechanicals, we have said, are a guide for the making of printing plates – and so printing plates are the next subject we must look into.

Plates

The preparation of printing plates varies considerably according to the method of reproduction to be used, but the general procedure – greatly simplified – goes something like this: (1) The camera stage: Here, all of the art work – line and tonal – is photographed onto negatives to the exact size marked on your art. (2) Stripping, or negative assembly: Now, using the mechanical as a guide, all of the negatives that have just been prepared in Step 1 are fitted or "stripped" together. (3) Opaquing: With a brush and opaque paint, the platemaker "opaques" (covers up) areas on the negative that should not appear on the finished plate. At this stage, in offset lithography, a blueprint or a brown proof called a vandyke is made from the negative for checking by the artist or production man. (4) Making the plate: The negative is placed on a sensitized metal plate and exposed to light. The plate is then developed. (5) Proving: Now a proof is pulled. This proving is usually omitted in offset, where a blueprint has already been seen and corrected. But for letterpress and silk screen, the artist or production man now marks this proof and returns it for correction and printing. Later in this lesson we will show you how the artist's procedure differs for each of the three printing processes, but for now let us see just what the processes are and how they work.

Letterpress

In the letterpress process line and tonal art are usually plated separately. These plates are etched deeply so that the surface that will print is raised. Type is often combined with these plates and both are "locked up" together into one "form" for printing. Printing ink is transferred from the raised surface of this form directly to paper. You are actually printing by letterpress every time you press a rubber stamp to an ink pad and then to paper.

Offset

In offset, the camera stage is almost identical with that of letterpress. After your work is photographed, everything is transferred to a thin metal plate – no actual type or plates have to be locked up together into a form, as they are in letterpress. Instead, all tonal and line elements, including repro proofs of the type, are photographed from the art and mechanical and combined on film, which is then exposed onto this single plate. Offset also differs from letterpress in that the inked impression is transferred or offset from the plate to a "rubber blanket" and then to the paper. The word "offset" derives from the process of offsetting the image from the plate to the rubber blanket before it contacts the paper. Except for the color lesson, the textbooks of your Course were reproduced by the offset process.

Silk screen

A mechanical for silk screen is prepared much the same as it would be for offset and the camera stage is also similar. Other than that, silk screen is quite different from the other processes in that paint is "squeegeed" or squeezed through a finely woven silk-screen stencil directly onto the paper or other printing surface. The paint is usually deposited in a much heavier layer than the ink in the other two processes. Silk screening can be done on curved surfaces and surfaces other than paper. Examples can be seen all around you on such objects as wood or metal signs, and glass or plastic bottles and fabrics.

The three major printing processes discussed in this lesson can be used to reproduce any kind of copy, whether line or tonal. Each process, however, produces a somewhat different effect on the printed page, and each has advantages and limitations. The decision of which process to use in a given situation is usually made by the production department.

The reproduction of art work is an intricate and involved study which can only be truly learned through experience. We suggest that you build upon the foundation you will acquire in this lesson by visiting print shops and engraving houses in your area. Talk with the men who will someday be your co-workers. You will usually find them eager to help anyone who shows a respect for their craft and seeks a better understanding of it.

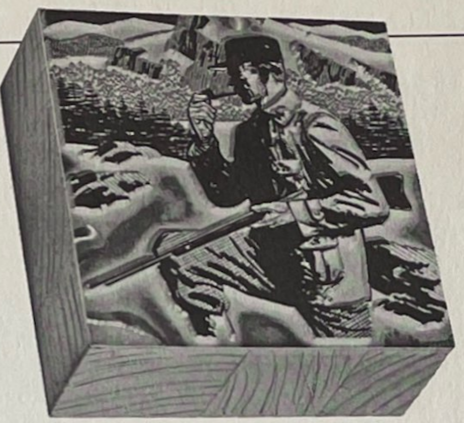
Line reproduction

The man who makes plates for letterpress printing is called a photoengraver, and his plates are called photoengravings or engravings. The simplest form of engraving is a line plate, or line cut, like the one shown at the right. Line plates are usually made of zinc and are "blocked" – that is, attached to a hardwood base – so that, when locked in a printing form, they will be exactly type high – 0.918 of an inch. Line cuts can be printed on almost any paper and are especially adaptable to coarse papers such as newsprint.

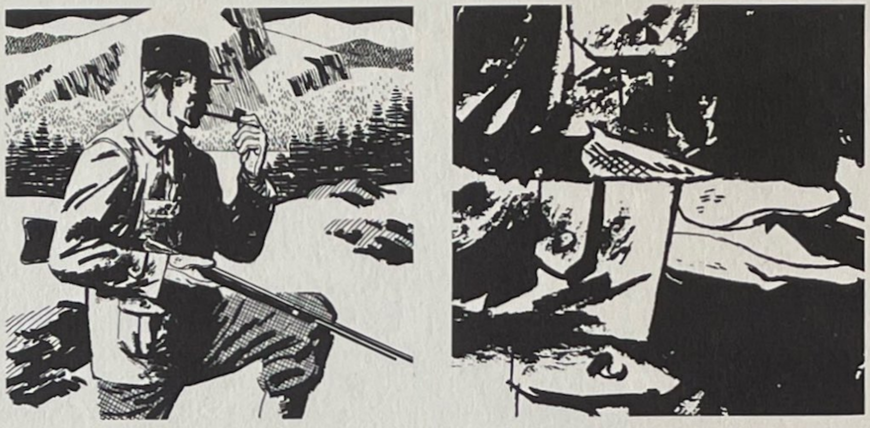
A line plate is made from art work composed entirely of lines and areas of a solid color (usually black) and white. It may contain crosshatching, stippling, dots, and solid black areas. This art is usually done in pen or brush and ink. Line copy often consists of reproduction proofs of type with ruled or decorative borders, typewriter type, charts, graphs, etc. Make sure that work which is to be reproduced in line contains no gray or tonal areas. Your drawing should be sharply black and white.

To make a line plate, the engraver follows the steps generally as outlined on the previous page. The negative he "shoots" is much like the one you would make with an ordinary camera. Remember, this is a negative; the areas in your drawing which were originally black are now clear in this negative, and all of the white areas are solid black. During the making of the plate, it is these clear portions of the negative which allow light to pass through and hit the sensitized metal. The exposed plate then goes through several processes, ending in one or more acid baths which "etch" or eat away the unexposed portions. When enough "bites" have been taken to make the design stand out in clear relief, any large blank areas are "routed out" or cut away.

Before blocking, the plate is proved and the proofs are given to the artist or production man for OK or corrections. While more corrections or changes can be made in an engraver's plate than in the other processes, a strong cautionary word for any process is: Make sure you begin with correct art work. It will always be the most satisfactory and least costly method of obtaining the results you want.



This is a line cut mounted type high (0.918 inch) on a hardwood block, ready for printing by letterpress.

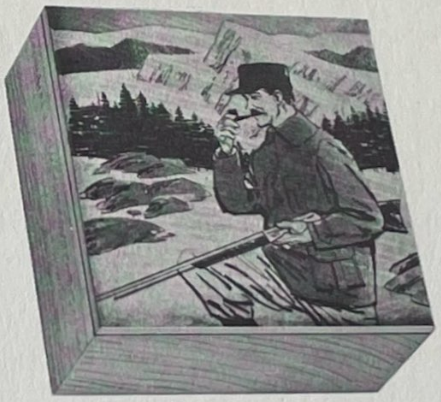


At the left is the line drawing from which the cut at the top was made. Although this picture was drawn with brush, pen, and ink on a textured paper, it creates a halftone effect by the use of crosshatched and stippled areas. At the right the enlarged area of this drawing shows clearly that the picture was executed entirely in line and areas of solid color to achieve this tonal effect.

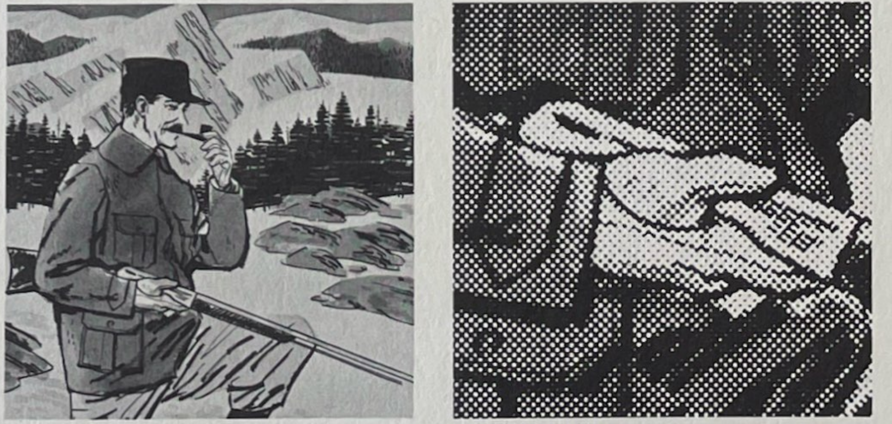
Halftone reproduction

Anything that the engraver cannot shoot as line must be shot in halftone. A halftone engraving is usually made of copper and can be used to reproduce virtually any tonal subject – a photograph, painting, or drawing.

The secret of the halftone process lies in photographing the material through a halftone screen – not unlike an ordinary window screen. The engraver's screen, however, consists of two plates of glass that are covered with very fine parallel lines. The two glass plates are cemented together with the lines in one plate crossing the lines in the other at right angles. The screen is placed in the engraver's camera directly in front of his film. Light strikes the screen first when the exposure is made, and the screen breaks the tonal image into thousands of very small dots on the negative film. Except for using a screen, the engraver goes through the same procedure in making a halftone plate as he does in making a line plate. In fact, the very small black dots on the finished halftone engraving create, in effect, a miniature line cut, as you can see in the enlarged section of the halftone at the far right. You can also see that where the drawing was light, black dots on the corresponding section of the plate are small. Where copy was dark, these dots are large. Our eye blends all these dots into tones which range from white through gray to black.



This is a halftone engraving made from a tonal drawing of the same subject as above. It has been blocked type high and is ready for printing by letterpress.



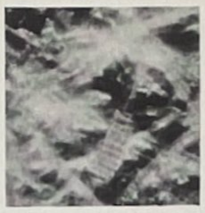
The halftone engraving was made from this tonal drawing done in wash. It is perfectly rectangular, and is called a "square halftone." Examine the enlarged section of this engraving *(right)*, and you can see how a halftone achieves its tonal values through a variation of black dot sizes, which blend together to form the appearance of a continuous tone. Compare the enlarged section of the line cut with this enlargement – notice that the halftone is, in a sense, a refined line cut.

For commercial use, screens generally range from 50 lines per inch to more than 133. The choice of screen is usually determined by the kind of paper the job is to be printed on. A coarse, rough paper will usually dictate a coarse screen. A highly finished paper will usually require a fine screen. When ordering halftone engravings for letterpress, always consider the paper upon which the engraving is to be printed. The microscopic photographs of paper reproduced at the upper right will serve as a guide and help you to understand the need for carefully selecting the appropriate halftone screen.

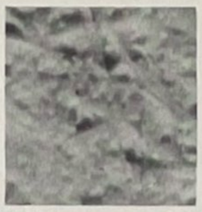
Line and halftone in offset printing

As we stated earlier, there is a great similarity between letterpress and offset in the camera stage. The major difference is that offset seldom uses screens coarser than 120-line and often goes as fine as 300, while in letterpress 65-line screens are used every day.

In offset, as in letterpress, the same separate treatment must be given to line and tonal copy, and the same names apply to the various types of tonal art when reproduced. The simplest kind of reproduction of tonal art is called a square halftone, and is illustrated at the lower left of the previous page. Occasionally you may desire an effect that cannot be achieved through the use of a simple square halftone — there are several other kinds of halftones to choose from. Illustrations of these various types for both processes are shown below. Study them carefully — they will give you a better understanding of studio production.



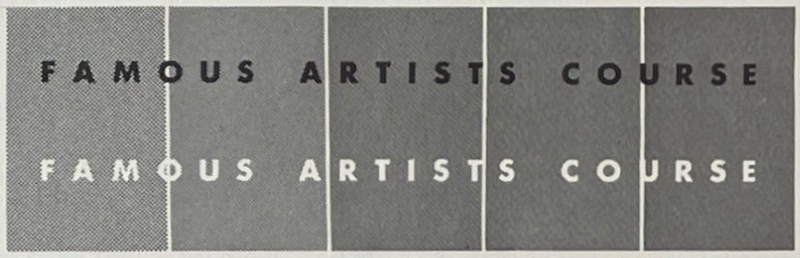
Newsprint
(soft, coarse)
50–65-line screen



Machine-finished
paper (hard, smooth)
85–100-line screen

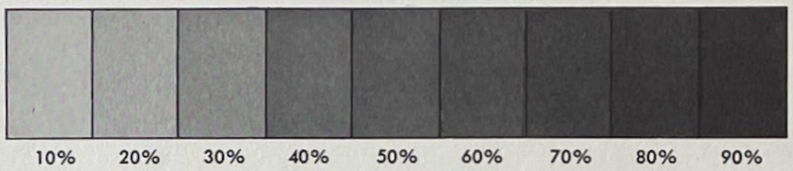
Dull coated paper
(low sheen)
100–120-line screen

Coated paper
(high sheen)
120–133-line screen



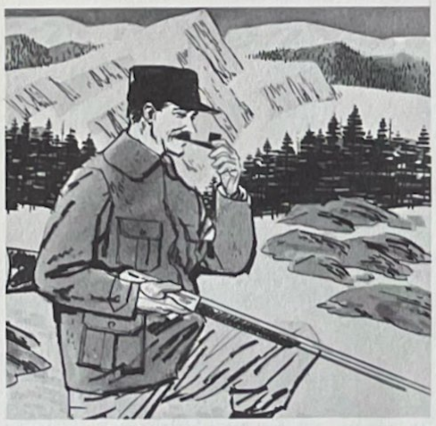
65-line screen 85-line screen 100-line screen 120-line screen 133-line screen

When selecting halftone screens, always consider the paper and the subject matter. Notice how type gets "chewed up" by the coarser screens.

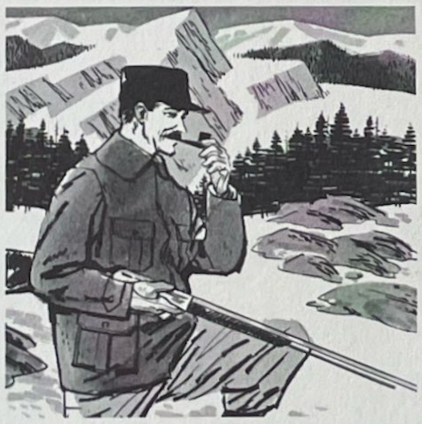


The engraver can supply halftone tint plates — from 50- to 133-line screen — to any desired tone value. These are usually specified by percentages and are used wherever you want a flat tone of gray or color, as shown in the two examples at the bottom left.

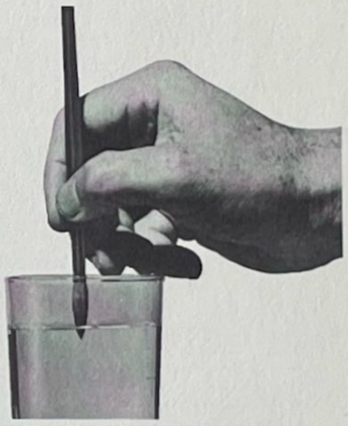
Examples of halftones



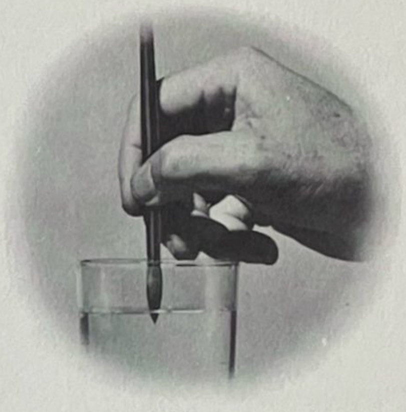
Line-halftone combination: This reproduction was made from the same tonal art used for the square halftone on page 4. One line negative is shot for the solid black ink lines — a separate halftone negative is shot for the tones of wash. These are then combined on one plate with no screen dot in the blacks.



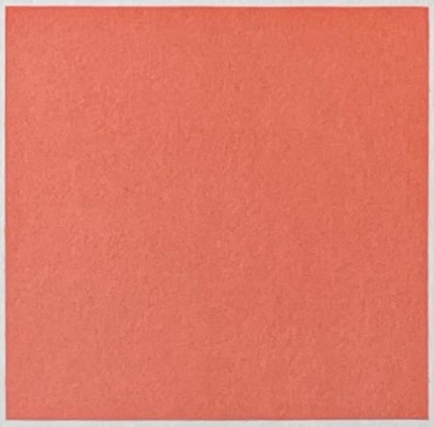
Drop-out halftone: Here the same art is reproduced as a drop-out or "highlight" halftone — without dots in the pure white areas. Note the added sparkle in this type of reproduction.



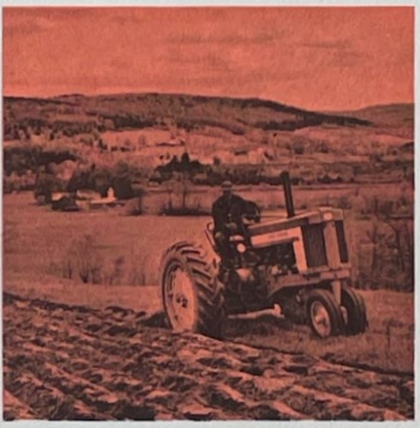
Silhouette halftone: This is used when you have a tonal subject with an irregular edge and you want to eliminate the background. How to silhouette a photograph was demonstrated in the previous lesson.



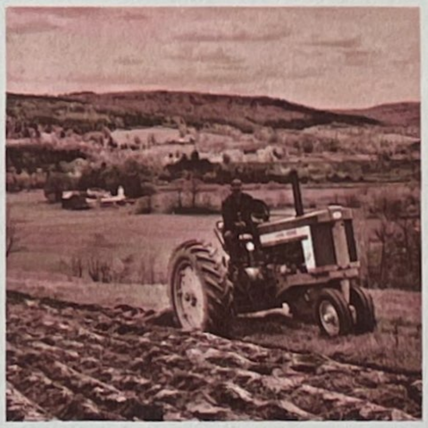
Vignette halftone: This is ordered when you have a tonal subject with an irregular outside edge that is to be faded gradually from tone to pure white.



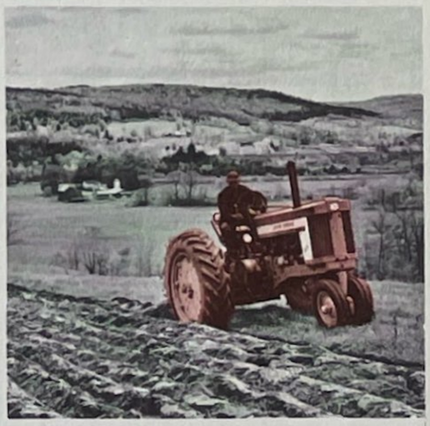
Tint plate: When you are printing in black and one or more colors, you can select a tint plate to any desired percentage to print under your halftone. This is a 40 per cent color tint.



Halftone with tint plate: This is how a halftone appears when it is printed over a tint plate. It looks similar to a duograph.



Duograph or duotone: This results when two halftone plates are made from one tonal black and white; one halftone is printed in color, the other is printed over it in black.



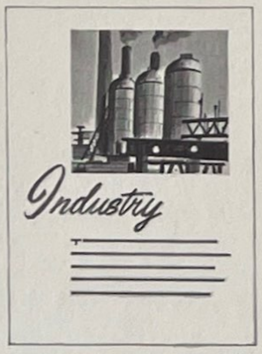
Spot duograph or spot duotone: This is the same as a full duograph except that it is usually employed to accentuate a particular area.

The three printing processes compared

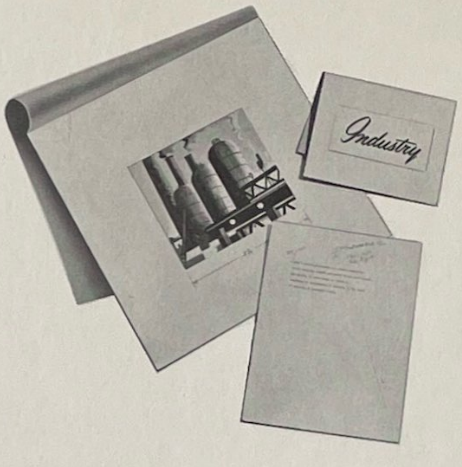
Here, in greatly simplified form, we demonstrate the basic steps in letterpress, offset lithography, and silk-screen printing. For each process we begin with the same simple layout and follow it through the various stages of production until it emerges as a printed piece. Note the differences and the similarities between the three processes — and you will have a better understanding of your role in preparing art for reproduction.

Letterpress

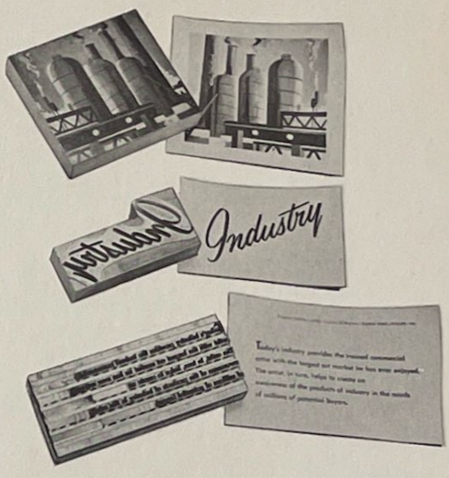
In letterpress a metal plate with a raised image is inked and pressed against paper — the principle is much the same as that of a rubber stamp and ink pad. The art work is sent to an engraver, who photographs it onto a plate. You must always specify a screen when ordering a halftone plate. Fine-screen halftones must be printed on glossy paper for good results. The plate is "backed up" or mounted on a wooden block.



1 This simple layout contains three elements: a tonal illustration, a hand-lettered headline, and body text.



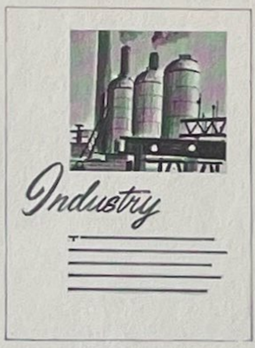
2 The finished art work for the tonal illustration and the hand-lettered headline is sent to the engraver, who makes the plates. Type is specified for the body text, which is sent in manuscript form to the typesetter.



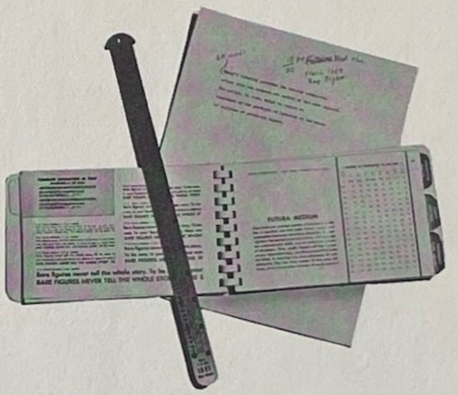
3 The engraver makes a square halftone plate of the tonal illustration and a line plate for the heading, and a proof of each is pulled. The typesetter sets type for the body text and pulls a galley proof.

Offset lithography

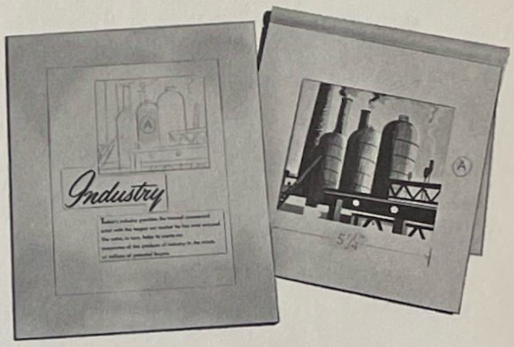
Offset plates are made by the offset printer. All art work — line and halftone — is sent directly to the printer for platemaking. Line art is simply included in position on the mechanical, along with reproduction proofs of the type, and both are photographed together. Halftones in offset print very well on almost any paper — even very rough-textured stock.



1 This layout contains the same elements as in our letterpress demonstration above.



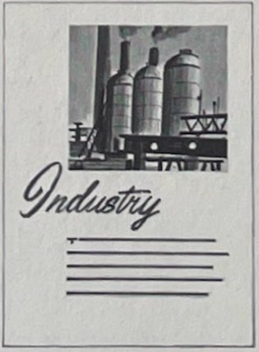
2 Type is specified for the body text and the manuscript is sent to the typographer for setting. After galley proofs have been read and corrected, repro proofs are ordered.



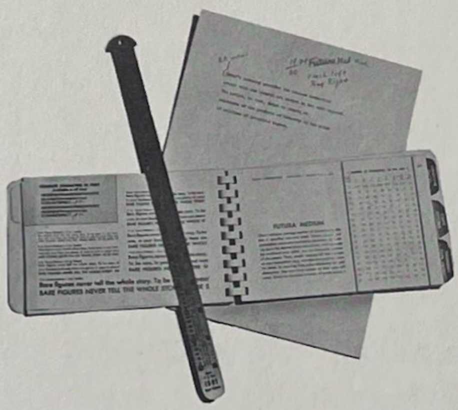
3 A mechanical is made. A photostat or lucy drawing of the tonal illustration, a photostat of the headline, and the repro proof of the body text are pasted in the position they will occupy in the printed piece.

Silk screen

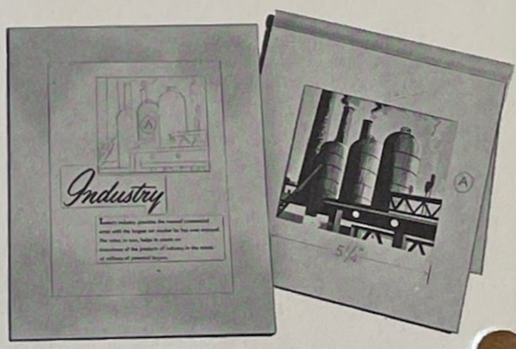
Silk screen is basically a highly developed stencil process best used for reproducing line work. It can reproduce halftone art also, although the quality of reproduction will rarely match that of letterpress or offset. Silk screen is more often used for art work which is too large to be economically printed by offset or letterpress, or when the length of the run would be too small for those processes. It is also ideally suited for printing on other than flat surfaces. The process described here is photo screen. For reproducing simple line copy, a silk screen stencil is often cut by hand.



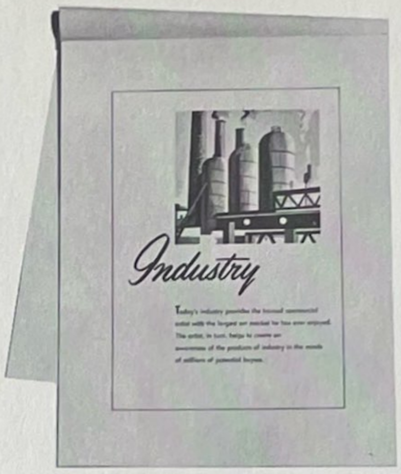
1 The layout contains the same elements as in our demonstrations of the other two printing processes.



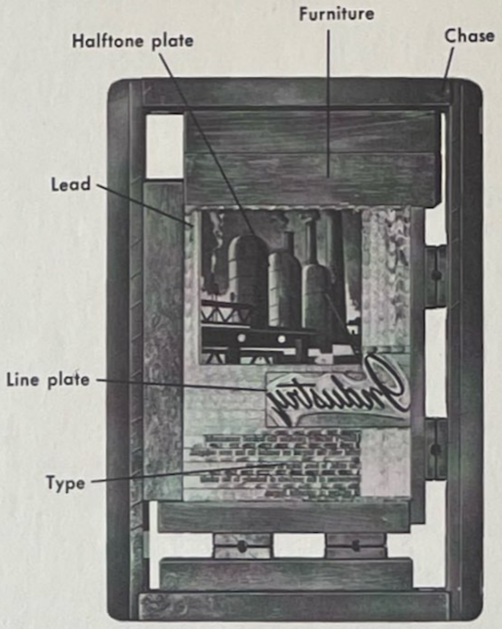
2 Type is specified for the body text, which is sent to the typographer. After galley proofs have been corrected, a repro proof is ordered.



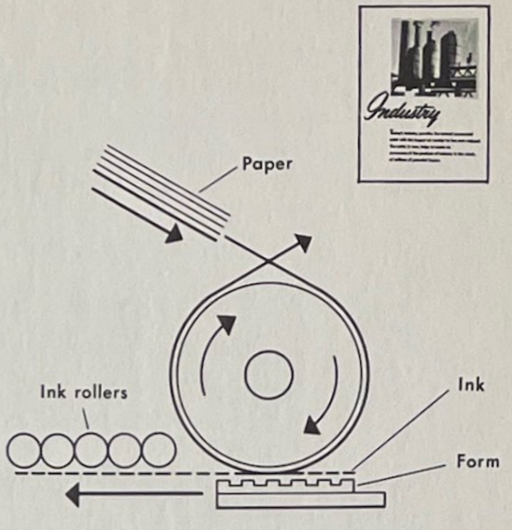
3 A mechanical is made just as it would be for offset, with all line art in position and halftone art indicated with a stat or lucy drawing and presented separately.



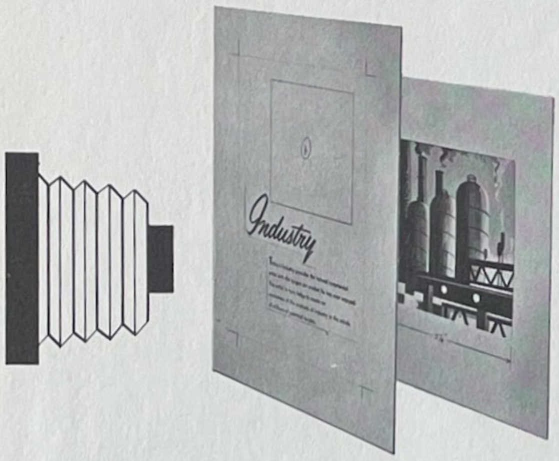
4 A mechanical or dummy is made by the artist to the exact size the printed piece will be. Here, proofs of all plates, line and halftone, and a galley proof of the type are cemented into their exact position as a guide to the printer.


Furniture
Halftone plate
Chase
Lead
Line plate
Type
Industry

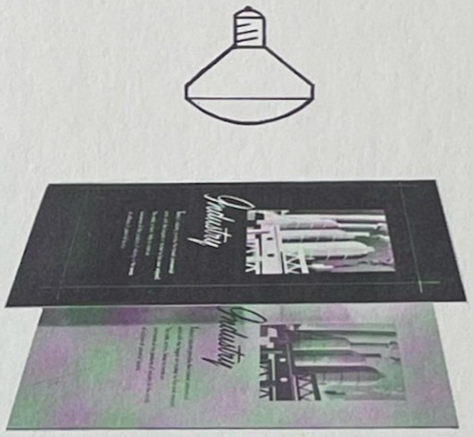
5 Following this dummy as a guide, the printer locks up the elements of the page (line and halftone plates and the type) in his "form" or "chase." The wood holding the elements in position in the form is called "furniture" in the trade.


Paper
Ink rollers
Ink
Form
Industry

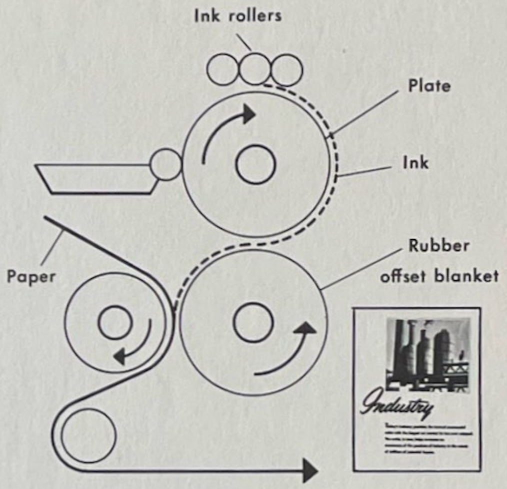
6 The form is placed on the press and the surface is inked. The paper and the inked form are then pressed together to obtain the printed image.



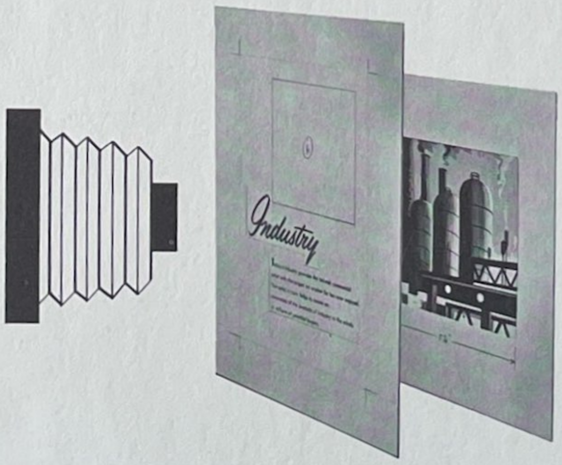
4 The mechanical and the separate art for the tonal illustration are sent to the offset printer. A negative is shot for the line elements of the mechanical (the type and hand-lettered headline) and a halftone negative is shot for the tonal illustration.



5 The line and halftone negatives are "stripped together" or combined to make one negative. This combined negative is placed over a sensitized plate and exposed to light. The plate is then developed.


Ink rollers
Plate
Ink
Rubber offset blanket
Paper
Industry

6 The plate is put on a cylinder and inked. The inked image is transferred (offset) to a rubber blanket which rolls against the plate, and the image is then transferred to the paper from the rubber blanket.



4 The mechanical is shot for line, and a halftone negative is made of the tonal illustration. These negatives are stripped together, and a positive is made which is transferred to a special photo screen film with a gelatinous surface.

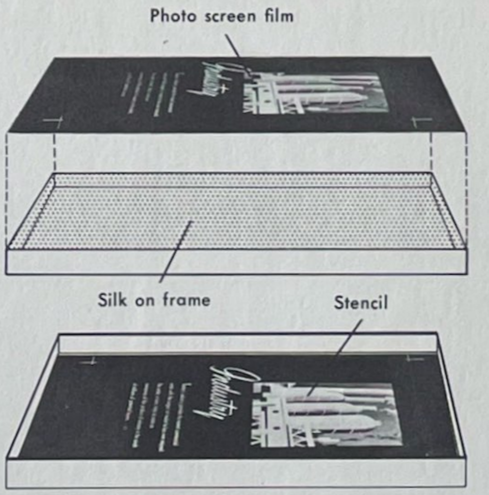
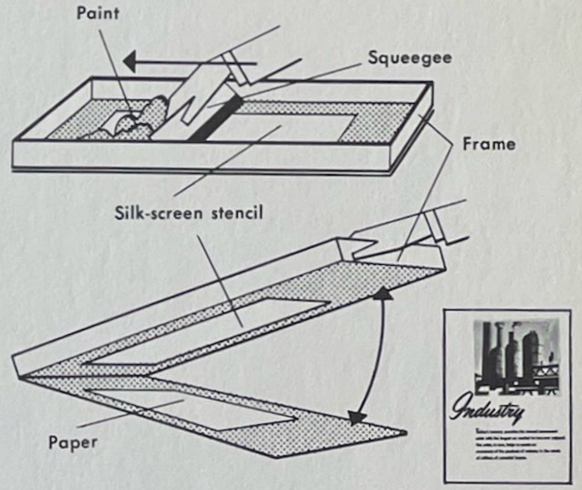


Photo screen film
Silk on frame
Stencil
Industry

5 A piece of silk with a fine mesh is stretched over a frame a little larger than the piece to be printed. The photo screen film is stuck directly onto this silk and the film portion is peeled off, leaving the gelatinous surface to form a stencil.


Paint
Squeegee
Frame
Silk-screen stencil
Paper
Industry

6 The silk-screen stencil is lowered against the printing paper, and paint is squeegeed through the fine silk onto the paper. The screen is lifted and the printed sheet removed.

Preparing art for reproduction

On this and the following pages we give you a guide to how mechanicals are prepared for one-color printing and for color separation in two-color printing. The first illustration in each sequence is the finished printed piece, while the numbered photographs to the right of it demonstrate how the art is prepared to obtain the effect shown in the printed piece. To get the most out of these pages, study them thoroughly until you understand the principles demonstrated. We have kept our examples simple so that you can relate your own art to them more easily — you will find them a valuable guide to the solution of many problems in preparing black and white and color-separated mechanicals.

Two-color preparation

Until now, we have been dealing with printing in one color. The methods are basically the same when a picture with two or more colors is printed. In every case, no matter how many colors a job is to be printed in, a separate plate must be made for each color and each color is printed separately.

Before he can make his plates the printer or platemaker must have a guide showing him where each color is to be printed. Preparing these guides is usually the job of the artist, and the work itself is called color separation. In its simplest form, it can be done on the basic mechanical. In other cases the areas of color may be outlined on a tissue overlay or these areas may actually be painted in with black ink on acetate or vellum overlays which are mounted on the basic mechanical and keyed to it. The black simply indicates where a particular color is to go — it does not mean that the area will be printed in black.

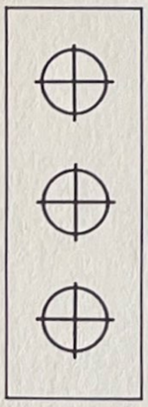
In the case of color photographs, paintings, or illustrations which contain colors that are blended together, the platemaker himself will do the color separation, photographing the art through different filters which separate the colors. In most other cases the separation should be done by the artist. Since he created the design and selected the colors, no one is better qualified. It is very important that this job be done well. If not, the artist could easily waste hundreds of dollars of his client's money on incorrect plates which must be made over.

Although there are many variations, the methods of preparing art for black and white and color reproduction that we show here and in the following section on the Bourges process are the safest and surest for producing quality work.

One thing is very important: Always be sure to key your overlay to your mechanical with register marks. These are a guide to the platemaker in making his negatives and plates, and in color printing will help assure that the individual color plates will match accurately and print in perfect register.

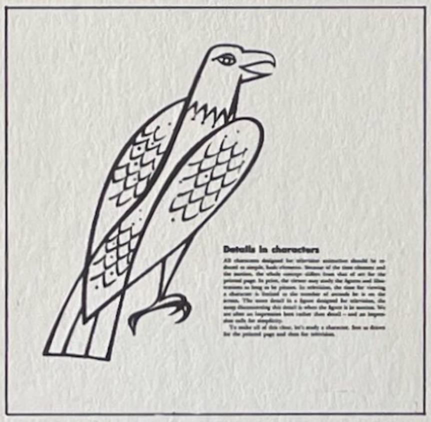
Key lines and holding lines. Another guide to the platemaker is a red "key" line. This is used to draw on the mechanical the outline of any art that is to be photographed separately and included on the negative. The platemaker knows that lines drawn in red indicate size and position only and are not to be printed. When a line is to be printed, or "held," it is drawn in black and is called a "holding" line.

Mechanicals are usually made on inexpensive smooth illustration board. It should be able to take ink without blurring. Remember, a lucy drawing or an accurate sketch can be used in place of stats to indicate size and position on a mechanical.

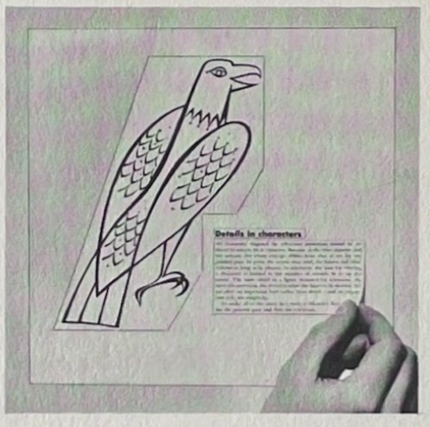


Adhesive-back register marks, printed on clear acetate, are accurate and easy to use.

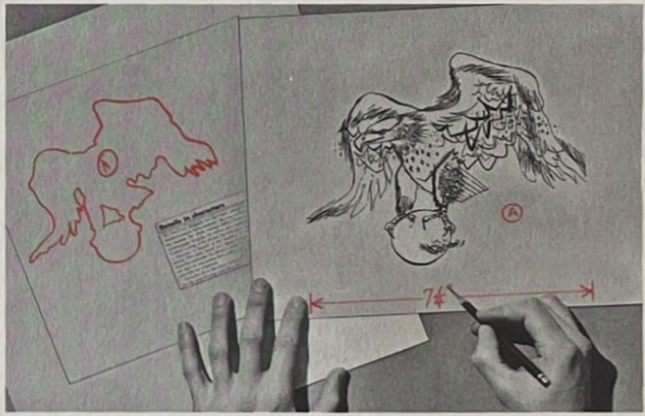
Examples in line



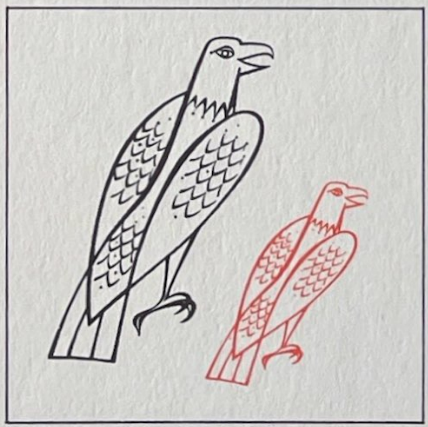
Line art and type: The art work contains no fine lines. Both art and type are printed in the same color.



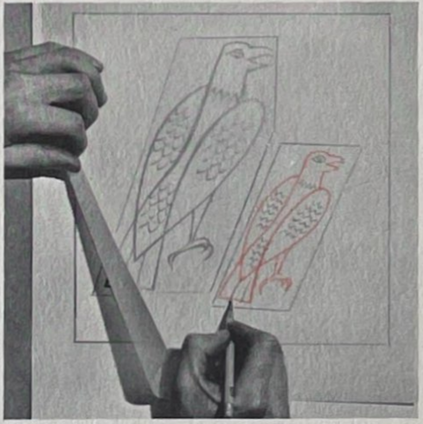
1 On the mechanical, rule the holding lines that form the box. Then cement in position a glossy photostat of the art reduced to the correct size, and a repro proof of the type. With simple line art work, the platemaker can make his plate from the stat itself. It is best to order glossy stats for reproduction.



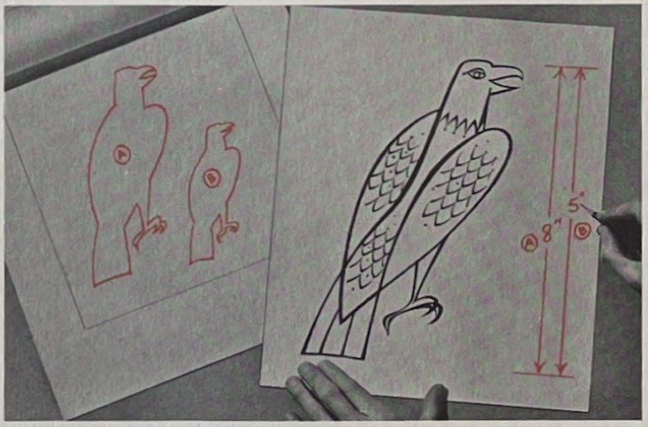
2 If the art work contains fine lines and has to be reduced (or if photostats are not available), let the platemaker make your reduction from the art. On the mechanical, rule the holding lines; then use a stat, or lucy the outlines of the art in red for size and position only. Mount the type proof in position. Mark the art work for size and key it to the mechanical with a circled letter, as shown in the illustration above.



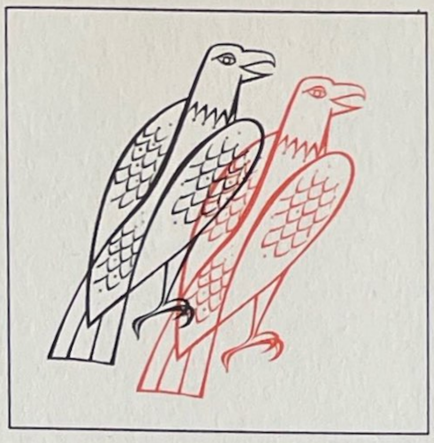
Two-color line art: The art work is bold, with no fine lines, and is printed in two colors.



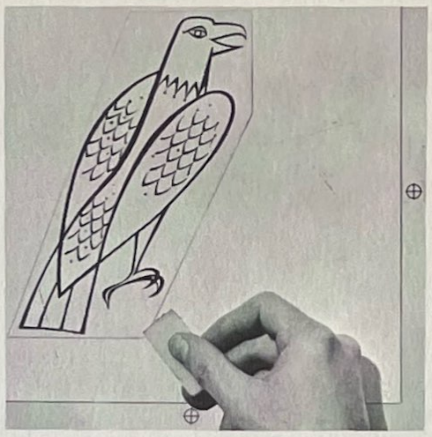
1 Rule the holding lines, then cement photostats of both pieces of art reduced to the required size, in position on the mechanical. On a tissue overlay, indicate the art that is to print in color with a pastel or pencil of that color.



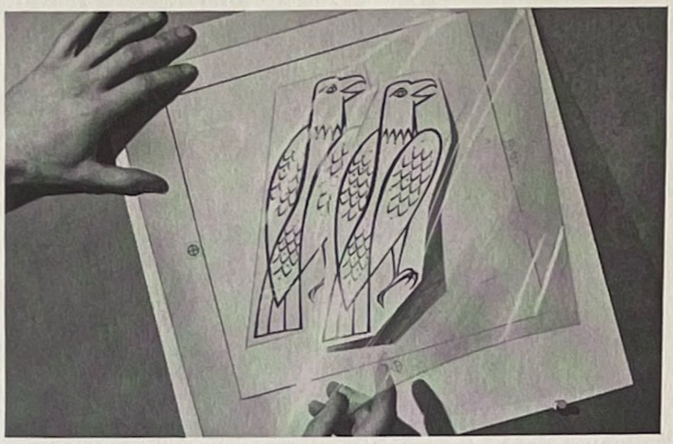
2 If stats of reproduction quality are not obtainable or if the art work contains lines that are too fine to photostat — indicate size and position on the mechanical with lucy outlines and key these to the original art. (Here, on the original art at right, the two lines and measurements indicate the reductions for eagles A and B, one drawing serving for both.) Holding lines are drawn on the mechanical. Indicate in color on a tissue overlay the eagle that will print in that color.



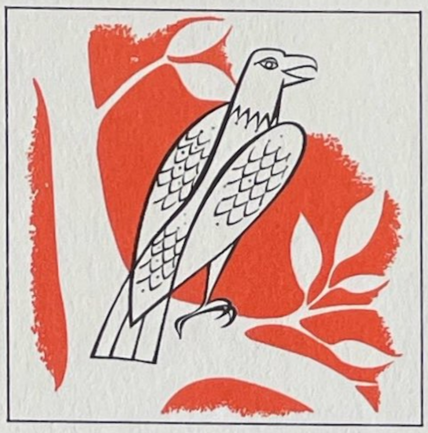
Two colors — loose register: Here one color prints over another — and register of the two colors is not essential.



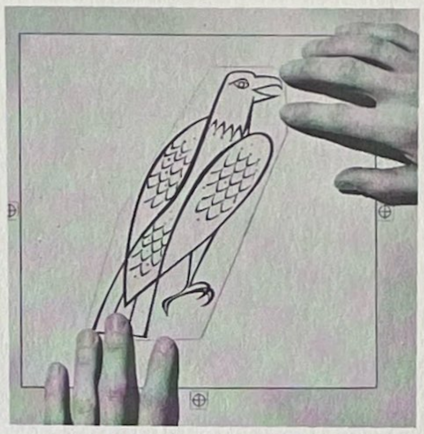
1 Rule holding lines and cement a stat of the black art in position on the mechanical. Then position register marks.



2 Tape an acetate overlay on top of the mechanical and place register marks on it keyed to the ones beneath. On this overlay, cement a stat of the art which is to appear in color. Over this, tape a tissue overlay, then trace in color pencil or pastel the part to be printed in that color.

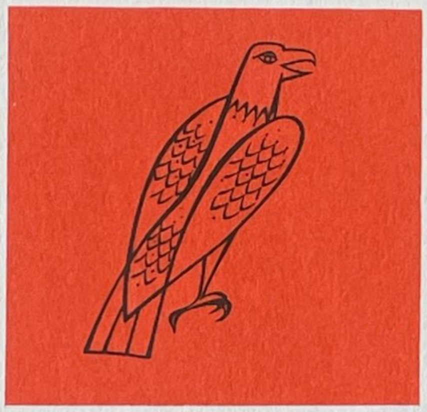


Two colors — tight register: Here the two colors must fit exactly.

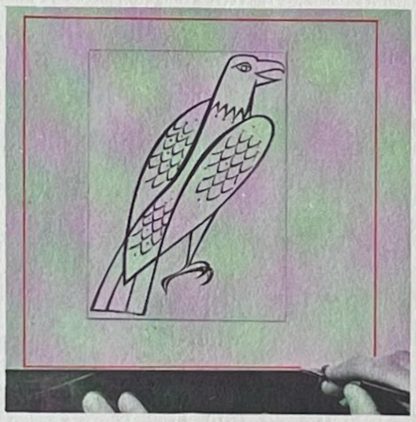


1 Rule the holding lines and cement in position a photostat of the art that is to appear in black. Then apply register marks.

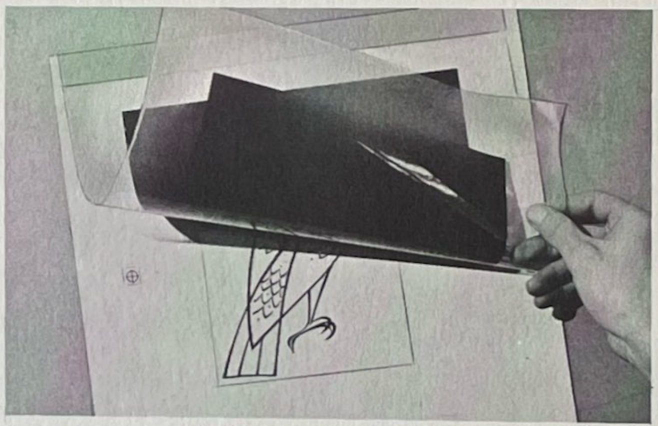
2 Tape an acetate overlay over the mechanical and add register marks. This is the overlay for color and is painted with black ink. Where this comes up to the art on the mechanical beneath, let the black on the acetate overlap the lines of the photostat a little to assure perfect register. Add a tissue overlay and indicate color separation. (Use a "treated" acetate for inking, and keep it free of fingerprints or ink will skip.)



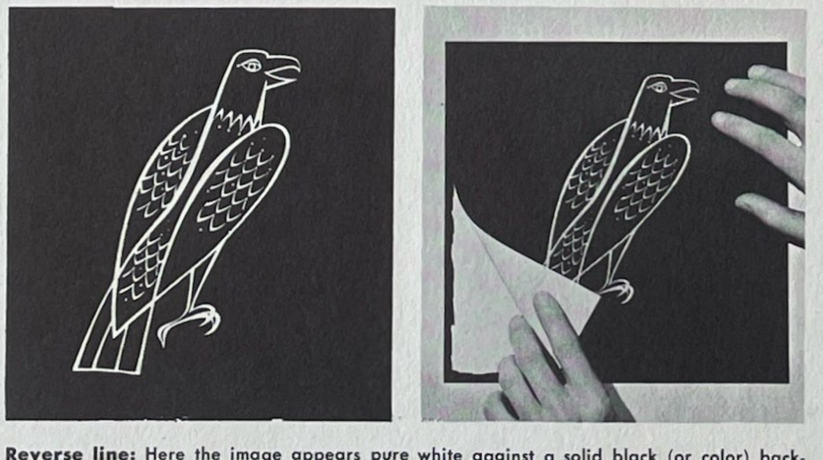
Two colors — line overprint: Here black overprints — that is, prints on top of — a color.



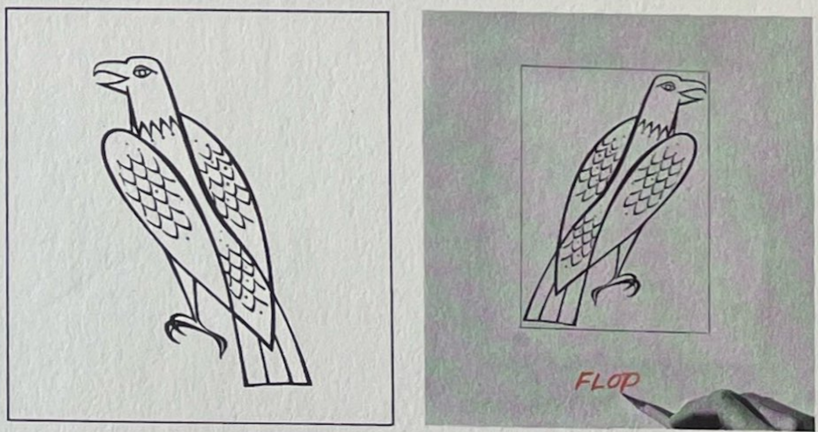
1 Rule a red key line on the mechanical and cement a stat of the art in position. On a tissue overlay, instruct the platemaker to print the area within the key line in solid color.



2 Another way is to cement a stat of the art in position on the mechanical and add register marks. Tape and key an acetate overlay on this. Cut a piece of flat black paper to the exact size of the color area, and cement this in position on the overlay. In the final step you will add a tissue overlay to indicate color separation.

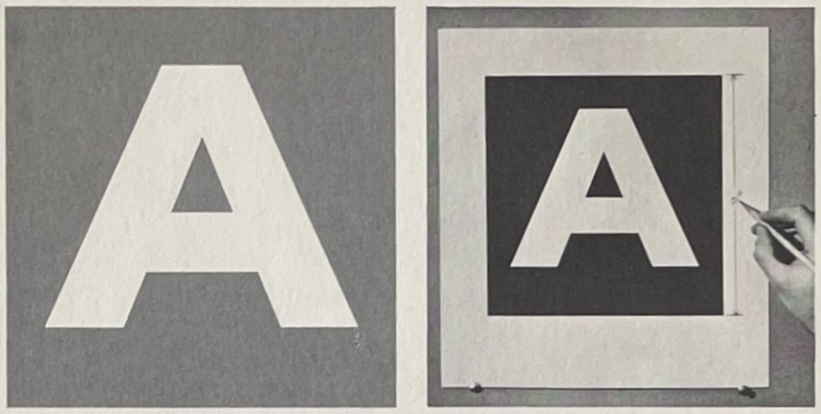


Reverse line: Here the image appears pure white against a solid black (or color) background. Rule the black holding lines, then paint the lines a little wider with brush and ink, as has been done at the right. Get a negative stat and trim it to fit these holding lines with a slight overlap. Paint the edges of the stat black and cement it in position.

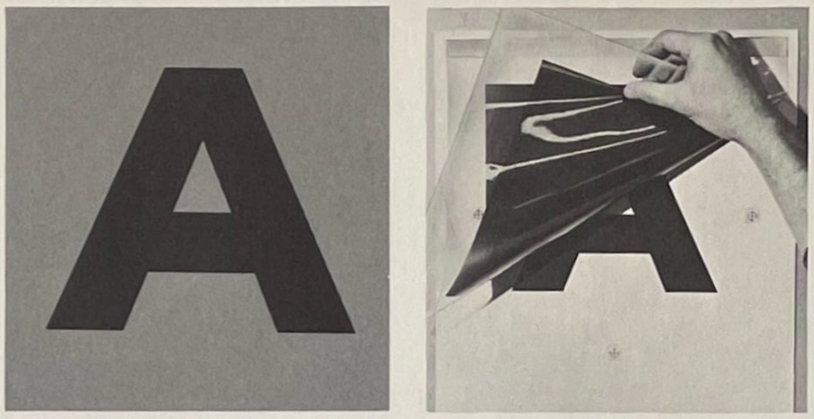


Flop: Here the art has been flopped — or turned from right to left. You can order a stat flopped and cement it in position on your mechanical, or indicate the new position with a red key line on your mechanical and instruct the platemaker to flop the art as shown.

Tint examples

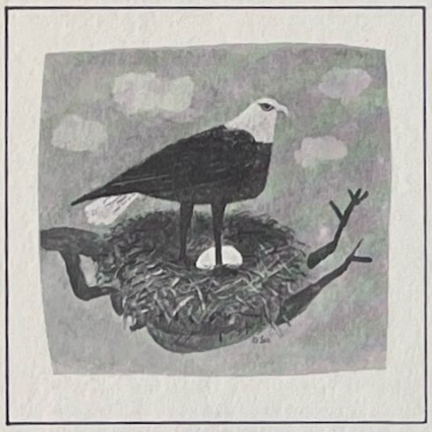


Reverse in a tint: When a piece of art is to appear pure white against a tint of black or color, prepare your art as you would for an ordinary reverse by using a reverse photostat. On a tissue overlay, specify the size and a percentage screen tint for the background *(right)*. The tint shown is 40 per cent.

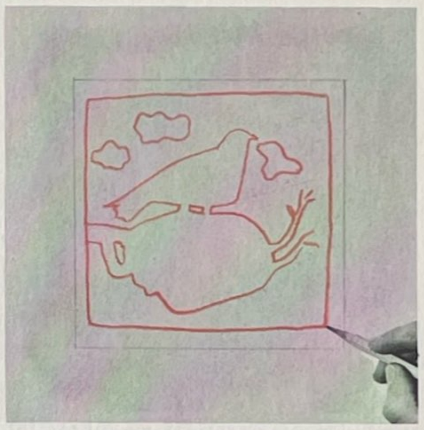


Line surprint: When a piece of art is to surprint — that is, print in solid color on a tint of its own color — cement the art on the mechanical and add register marks. Tape and key an acetate overlay on this. Cut a piece of flat black paper to the exact size of your tint area and cement it in position on the acetate. On a tissue overlay, mark the background to the desired value by specifying what per cent tint you want.

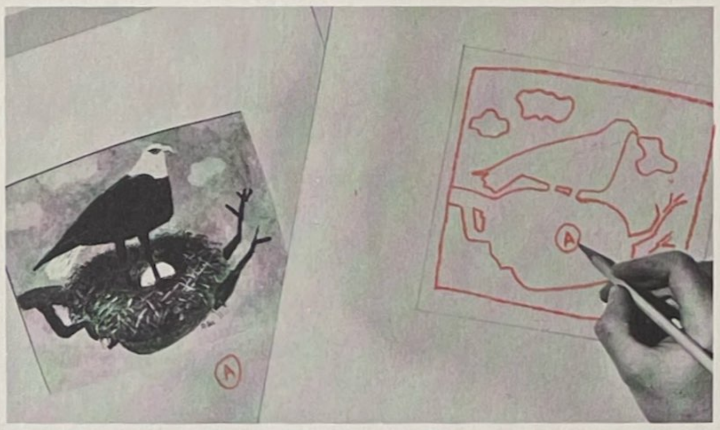
Halftone examples



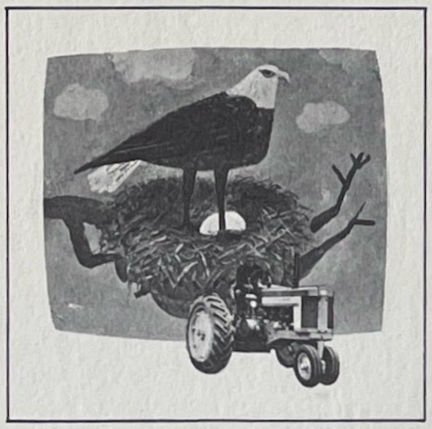
Halftone in position: Here a halftone is printed in a certain size and position within a ruled box.



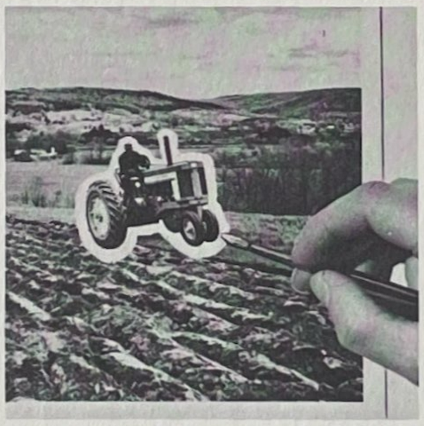
1 First, rule a black holding line. Then, with a red pencil, lucy the outline of the halftone in position on the mechanical.



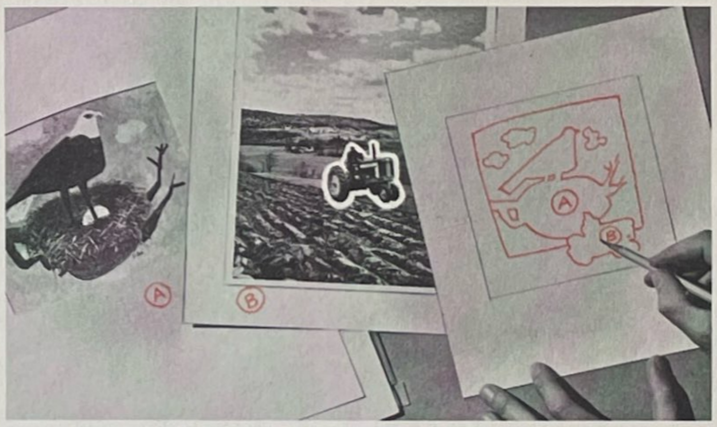
2 Key the outline to the finished art with an identifying letter, as shown. Instead of a lucy drawing, you can use a photostat to indicate the size and position. If you do, be sure to key it to the original and draw an X through the stat so the platemaker will not think it is finished art.



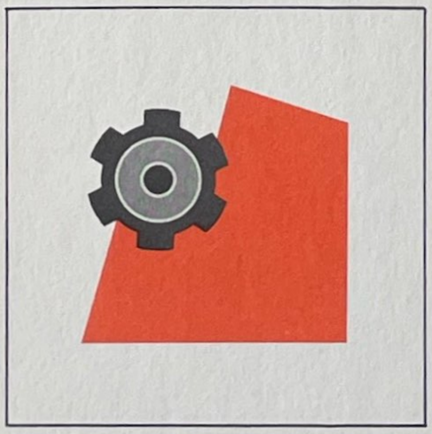
Combining two halftones: This is the procedure to follow when you want the platemaker to combine two halftones. In this example, one is a painting, the other a photograph of irregular shape.



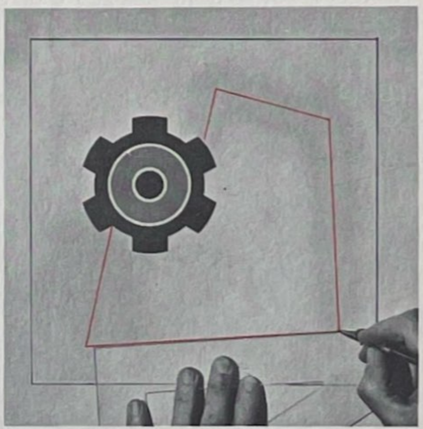
1 First, silhouette the object in the photograph. To make sure any very light edges won't get lost, darken them with retouch grays.



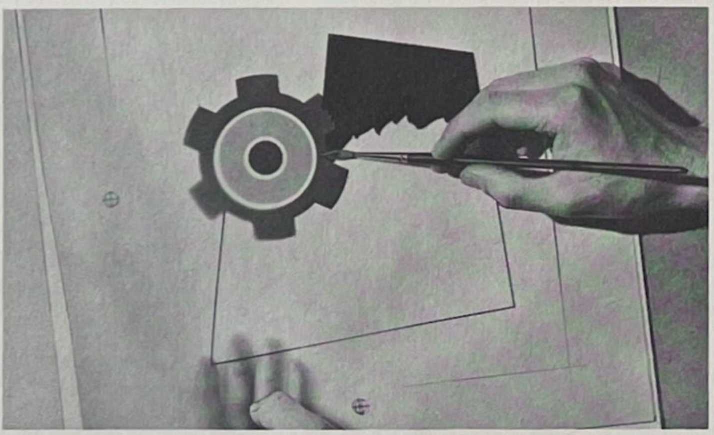
2 Rule a black holding line on the mechanical. Then, using a red pencil, lucy the outlines of both halftones in the exact position and size in which you want them to appear, indicating which is to overlap. Key the art to the mechanical.



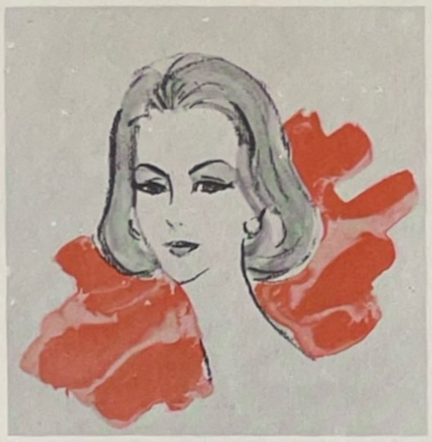
Black halftone with tight color register: Here you have a tonal drawing with a second color fitting in exact register to it.



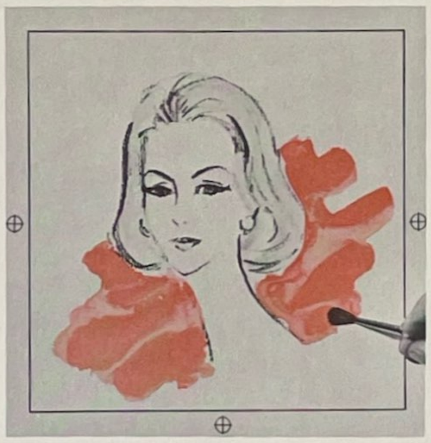
1 Rule a holding line and cement a stat of the tonal art — or lucy in the outline in red — for size and position on your mechanical. Then rule a red key line as shown, to indicate the exact size and position of your color area. On a tissue overlay, indicate color separation.



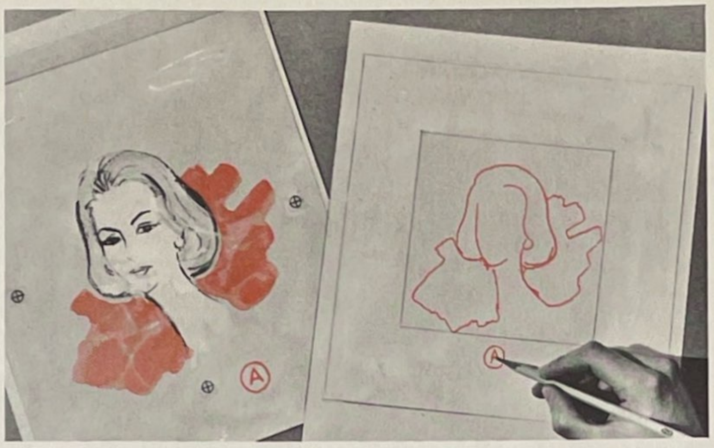
2 A second way: Put a stat of the tonal art for size and position on the mechanical. Then tape and key an acetate overlay on this. Paint the area that is to appear in color on this overlay in black ink, letting it generously overlap the tonal art. On a tissue overlay, indicate color separation, and instruct the platemaker to register the two colors. On a tight fit of two colors, the platemaker can always make a more accurate register than the artist.



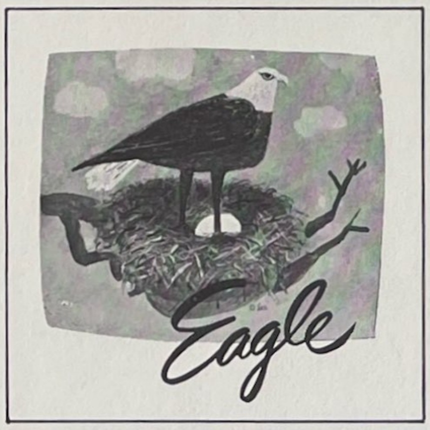
Black halftone with loose register of color: Here the second color is used in a very loose treatment, which creates no register problem.



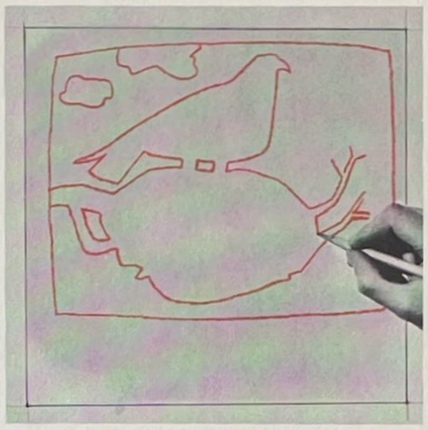
1 Tape and key an acetate overlay on the finished art. Using a brush with black ink or wash, paint in the area for your second color on this overlay.



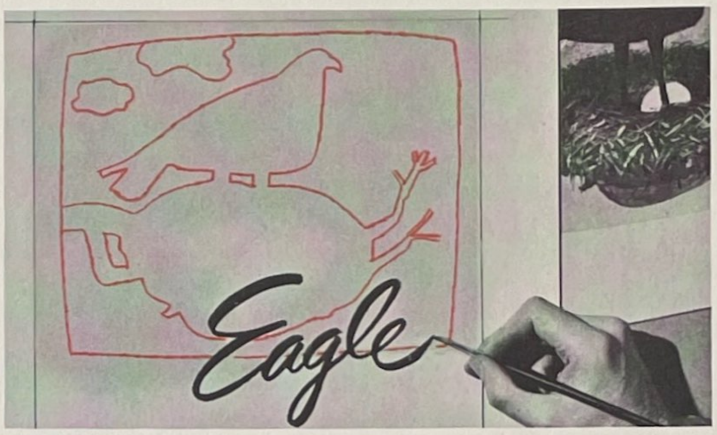
2 Rule a holding line on the mechanical and then, in red pencil, lucy in the outline of the art, indicating size and position of the art for both colors. Key this to your finished art. On a tissue overlay, indicate color separation.



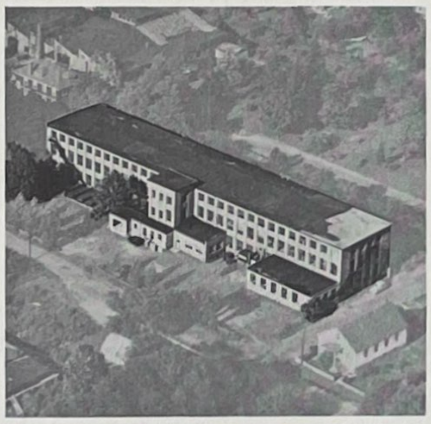
Combining line and halftone: Here line art of one color (the word "eagle") is surprinted over a halftone of the same color.



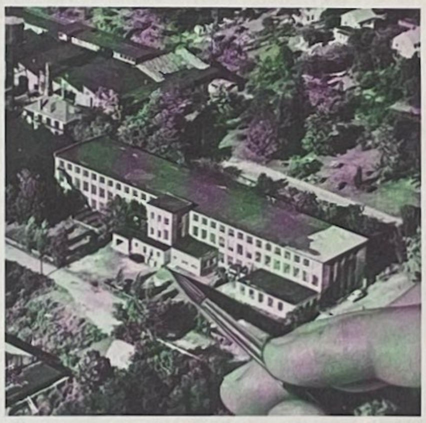
1 Rule a holding line on the mechanical. Then, using a red pencil, lucy an outline of the tonal art to indicate size and position.



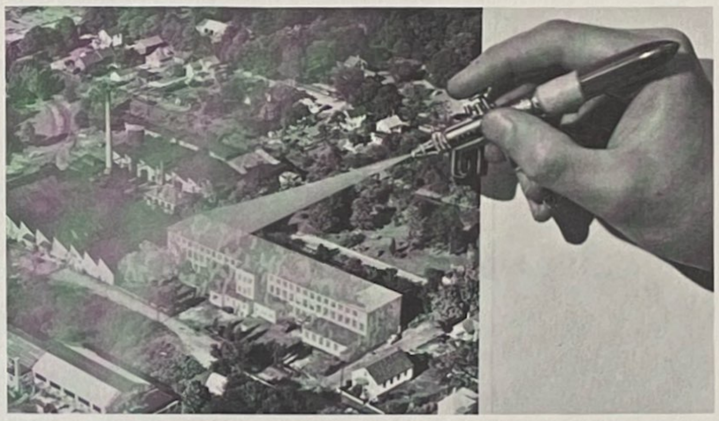
2 Now draw or cement your line art in position on the mechanical. Use opaque white to paint a break between the red key lines and your black line art. Use a tissue overlay for instructions to the platemaker.



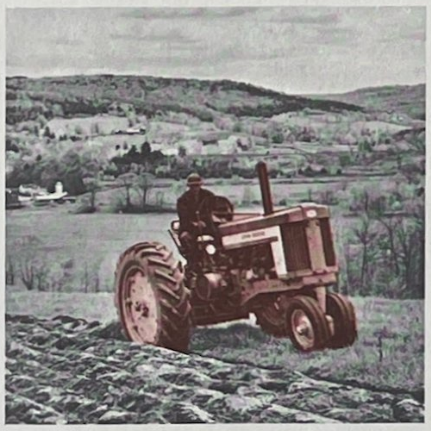
Ghosting: This is used to emphasize a certain section of a photograph, and can easily be done in two ways, which we demonstrate.



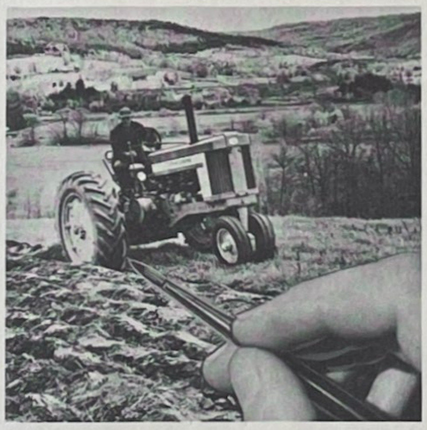
1 First, using retouch grays, separate the subject from the background by painting out objects that overlap both.



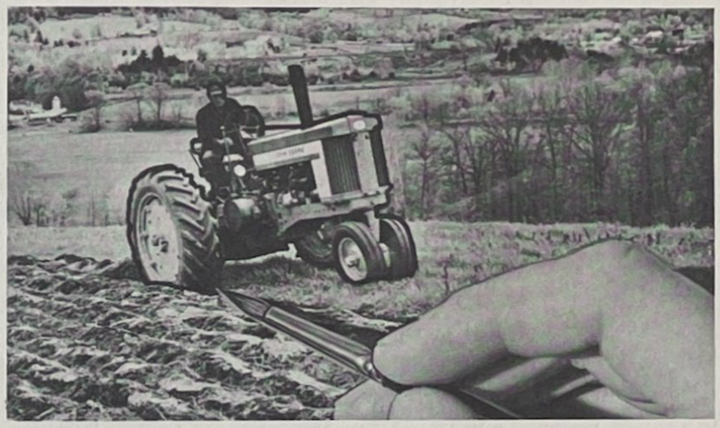
2 You can now: (1) frisket the subject and spray the background lightly with opaque white in an airbrush; or (2) use a grey Bourges sheet.



Spot duotone: This is occasionally used in two-color jobs to emphasize a certain section of a photograph.



1 With retouch grays, remove elements overlapping the section to be emphasized, making the outline as clean as possible. Then lighten areas where you want strong color.



2 On an acetate overlay taped over your photograph, use black ink in a pen or brush to outline exactly the area that you want to appear in color. Special instructions can also be written on this overlay — for instance, if one area should receive more color than another. The rest is up to the platemaker.

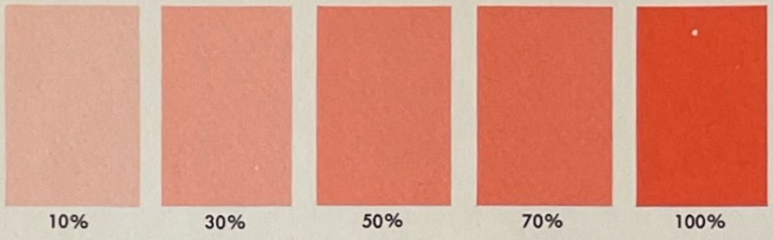
These pages describing the Bourges process of color separation were prepared with the help and co-operation of Jean Bourges, President of the Bourges Color Corporation.

The Bourges process

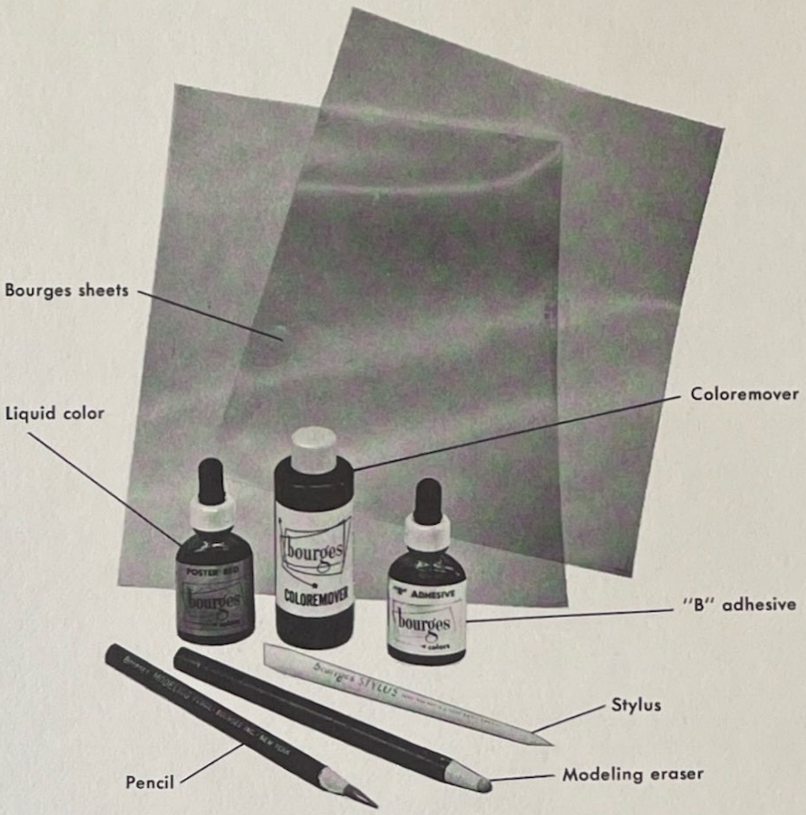
Here, and on the pages that follow, we demonstrate the Bourges process of color separation. For the purpose of clarity we present this in two sections — line separation and halftone separation. We will also explain how to handle tint copy and, finally, show how one drawing can be treated in six different ways to create different effects.

The Bourges process is based on the use of transparent color sheets which are matched to standard printing inks. They offer the commercial artist a simple way to create two-color or multi-color separation using these sheets as overlays. There are two types available: overlay sheets and adhesive sheets. The adhesive sheets are used primarily for indicating color on layouts, while the overlay sheets are used for the most part in color separation. Both types of sheets have a unique surface which can be worked on by the artist, removing or adding color as he finds necessary. The only materials you need, in addition to the Bourges sheets and a brush, are some cotton, a stylus, and liquid "coloremover," which are used for removing the color coating for both line and halftone separation; liquid colors and pencils for adding color, modeling, and tonal gradations on halftone art; "B" adhesive, which is added to liquid color when it is diluted to restore its adhesive quality; and the modeling eraser, which is used mainly for softening hard edges and creating textural effects.

The Bourges process can also be used to produce the same results shown in several of the demonstrations in the previous four pages, such as two-color tight register, two-color overprint, line surprint and others.



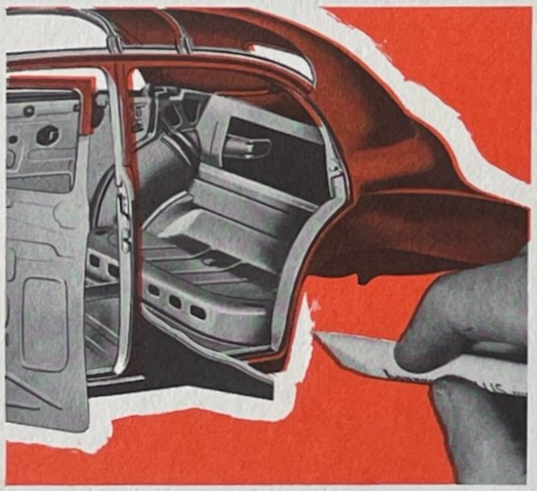
Bourges sheets are based on standard printing-ink colors: process red, blue, and yellow — and poster red, blue, yellow, orange, green, brown, also black, white, and grey. These colors come in five different values which correspond to the platemaker's screen-tint values shown above. There is also a clear acetate sheet called Kleerkote on which you can work with ink, liquid color, or paint.



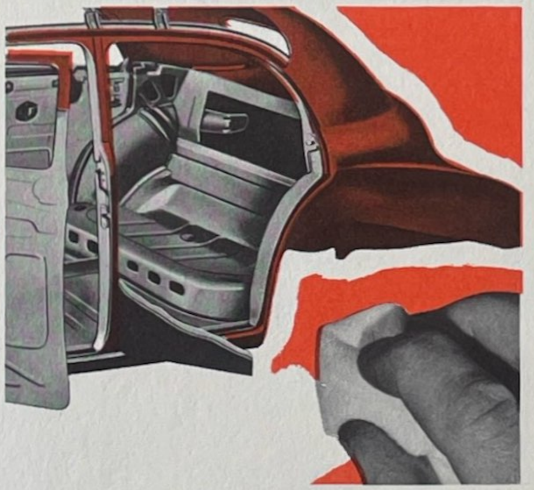
These are the basic tools and materials necessary when using the Bourges process.

Line separation

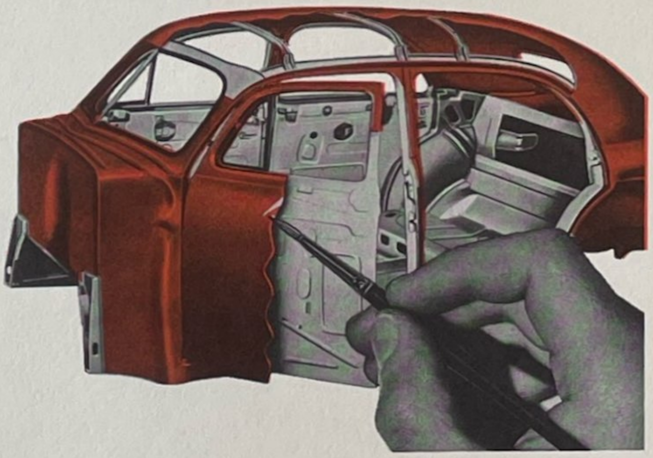
For line color separation you use the 50, 70, or 100 per cent color overlay sheet of any color. For our demonstration we will use a 100 per cent value of red, but we could have used any other color 50 per cent or stronger. Begin by attaching the long edge of the overlay sheet to your illustration with masking tape. Then, with register marks, key your overlay to the illustration and you are ready to go to work.



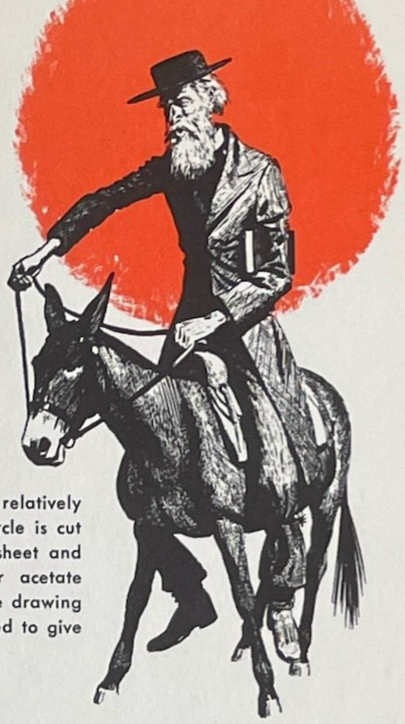
1 Here color is to be used over most of the outside of the car body. The first step is to remove unwanted color around the edges and from the inside areas by scraping it off with the stylus to establish an outline and high lights. You will notice the overlay is transparent — you can see the black and white illustration underneath.



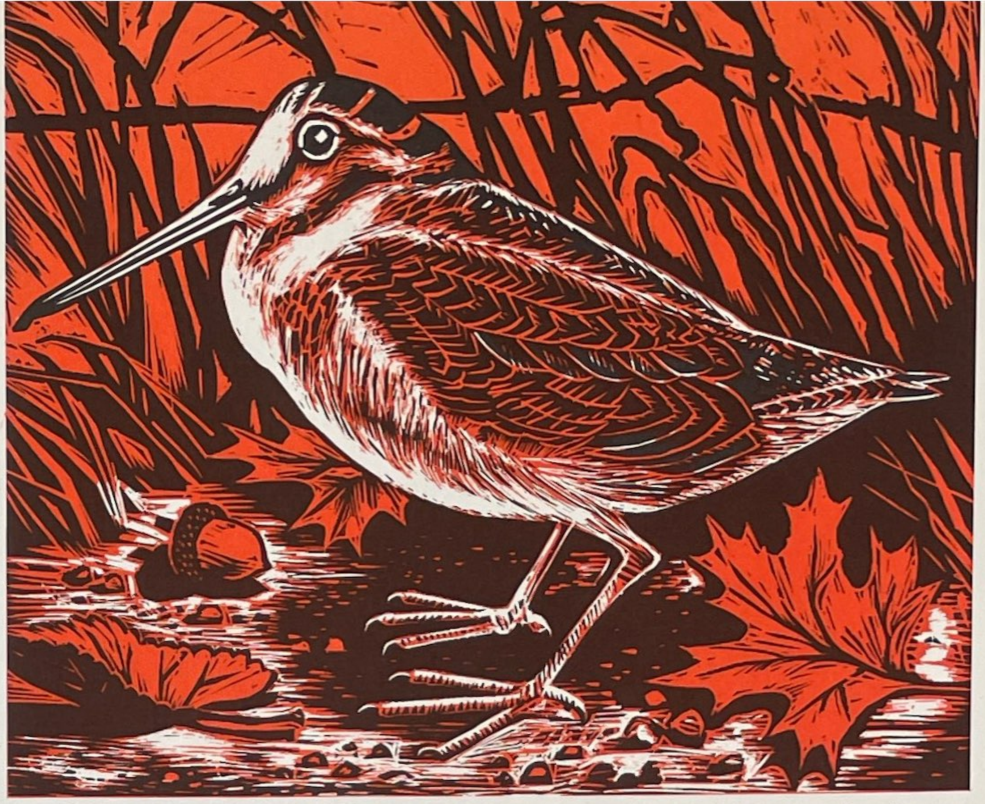
2 Large areas of the color coating can be quickly removed with liquid coloremover. Dampen the area slightly with cotton and coloremover, then use a clean piece of cotton or the stylus to remove the color.



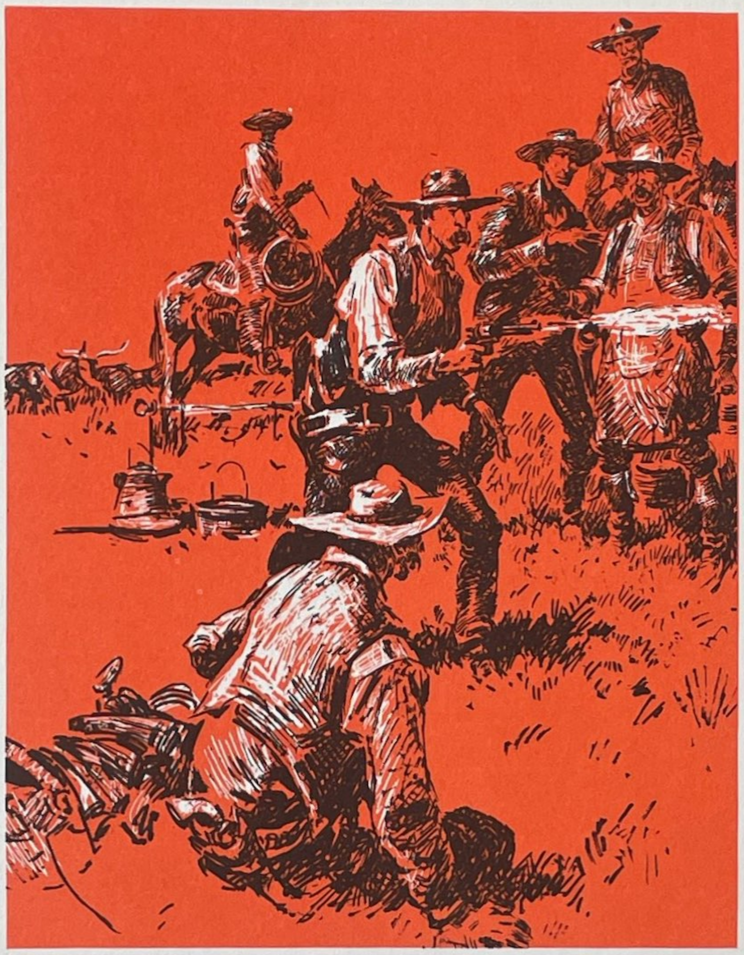
3 Repairs are made easily with liquid color and a brush. Here, a scratch is being filled in with liquid color to demonstrate this point.



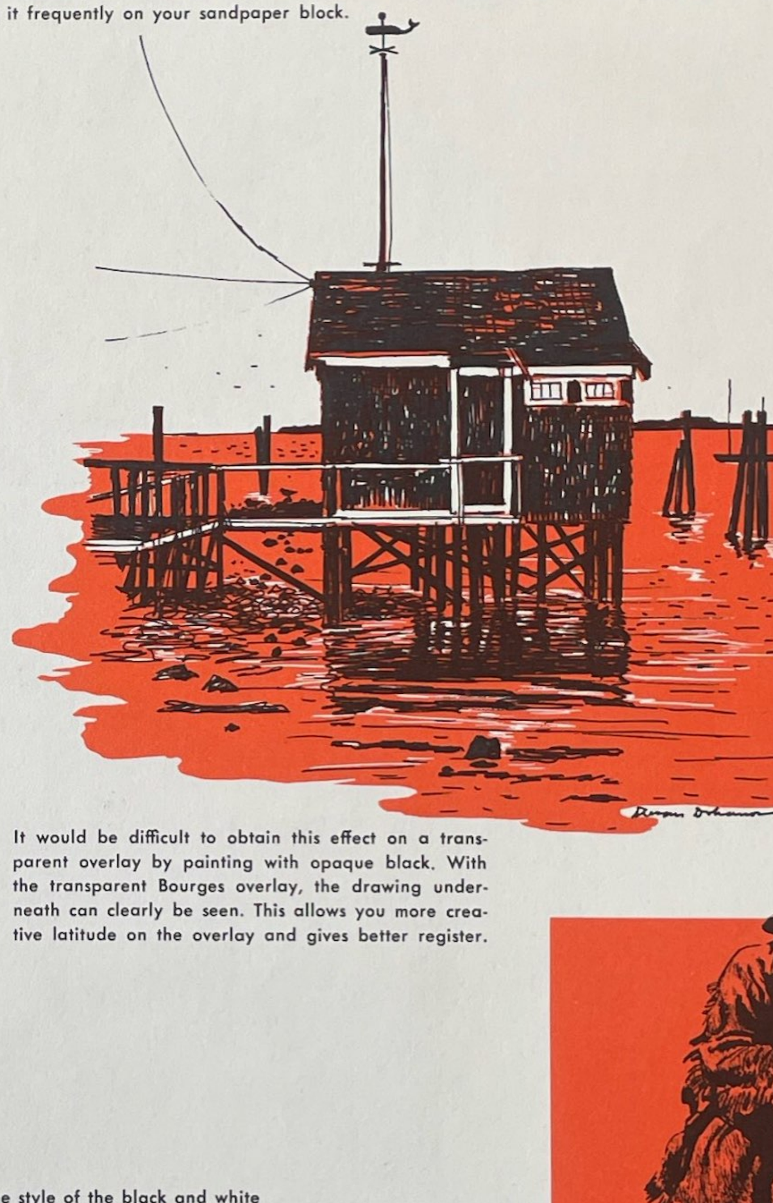
This illustration calls for a relatively small spot of color. Here a circle is cut out of the adhesive Bourges sheet and applied to a sheet of clear acetate which has been taped over the drawing and keyed. Steel wool was used to give the rough edge to the color.



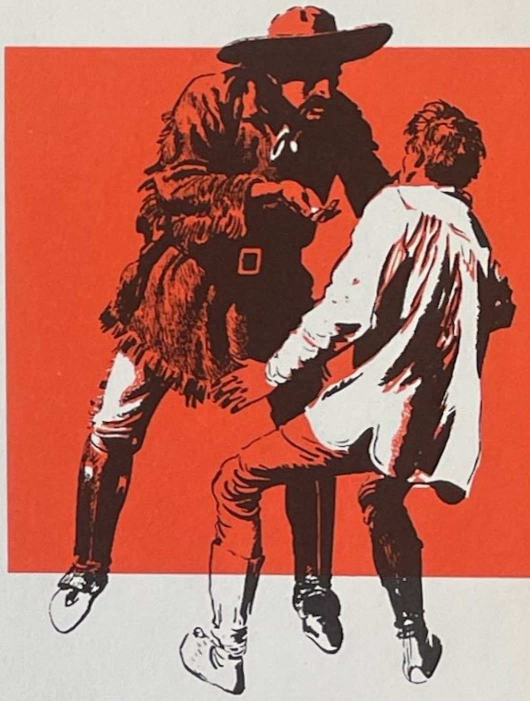
Here the woodcut technique used in this black and white illustration was carried through on the color overlay. The characteristic woodcut effect was easily created on the Bourges overlay simply by using the stylus. It is not necessary to soften the color coating. Just use the wedge end of the stylus and keep it sharp by rubbing it frequently on your sandpaper block.



This free-line technique was achieved by softening the color coating with liquid coloremover on cotton; then, working loosely with the fine point of a stylus, the color was removed. The coating dries back to its original hardness quickly, but can be resoftened as often as necessary.

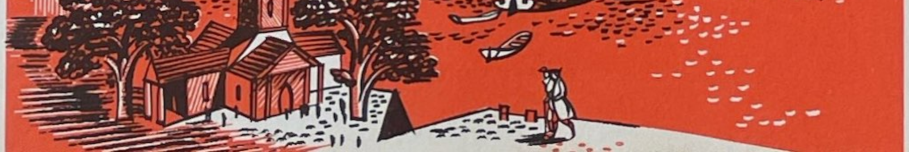


It would be difficult to obtain this effect on a transparent overlay by painting with opaque black. With the transparent Bourges overlay, the drawing underneath can clearly be seen. This allows you more creative latitude on the overlay and gives better register.



This illustration demonstrates how the Bourges overlay can help to create a three-dimensional feeling. In this case it was used to push one figure into the background and focus attention on the foreground figure. The color was removed from the overlay with the stylus.

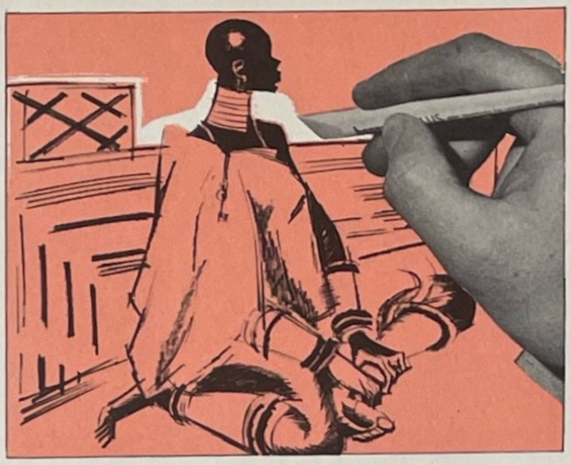
Here a scratchboard technique was used on the color overlay to match the style of the black and white illustration under it. To do this you can use the stylus or, if you prefer, regular scratchboard tools.



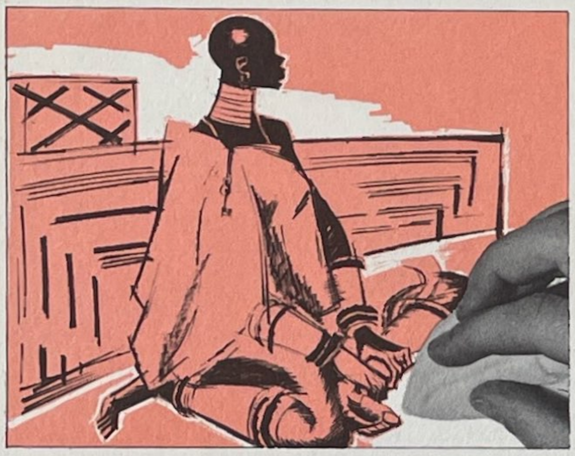
Bourges – halftone separation

Halftone separation is handled in much the same manner as line separation. One difference is that you use a light-value Bourges overlay sheet – either 10 per cent or 30 per cent. Color is removed with the coloremover and stylus. The liquid colors and pencils are used for adding color where you want modeling and tonal gradations. The liquid color comes in full strength and can be diluted with water for lighter values. Also, excess liquid color can be removed with water without affecting the color coating on the overlay sheet. A soft brush or cotton is best for this operation. Caution: Halftone overlays on which pencil and liquid color are used should be sprayed with clear lacquer to protect them in handling; or a sheet of clear acetate should be taped over them as a protective overlay.

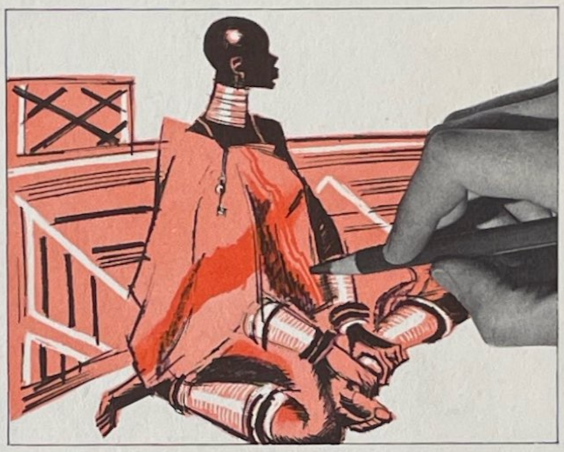
The demonstration begins at the right, with a 30 per cent Bourges overlay taped over the illustration and keyed to it with register marks.



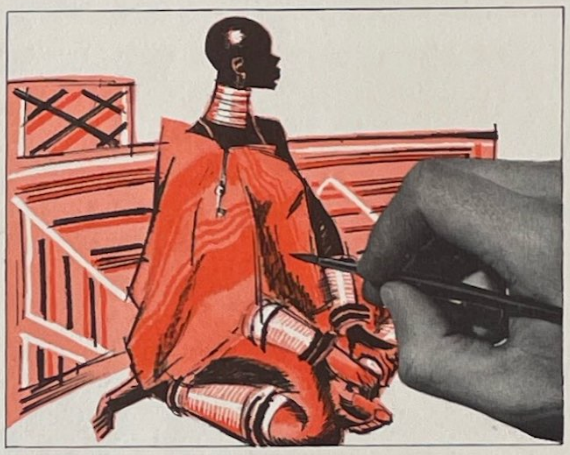
1 Remove the unwanted color around the edges with the stylus. This gives you an edge which you can work up to without damaging areas in which you wish to retain color.



2 Soften the large areas of unwanted color with coloremover on cotton and gently remove the color with a clean piece of cotton or the broad edge of your stylus.

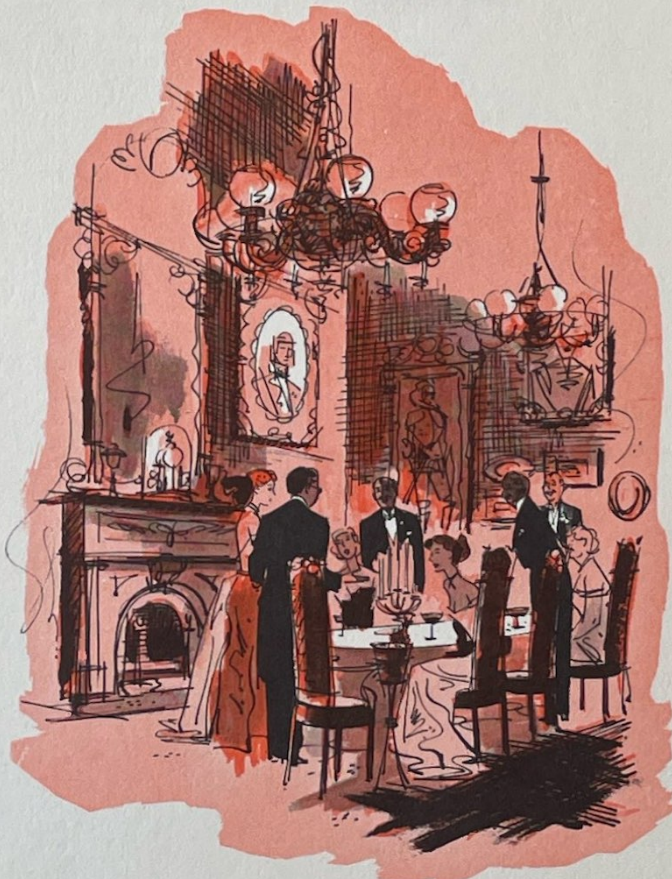


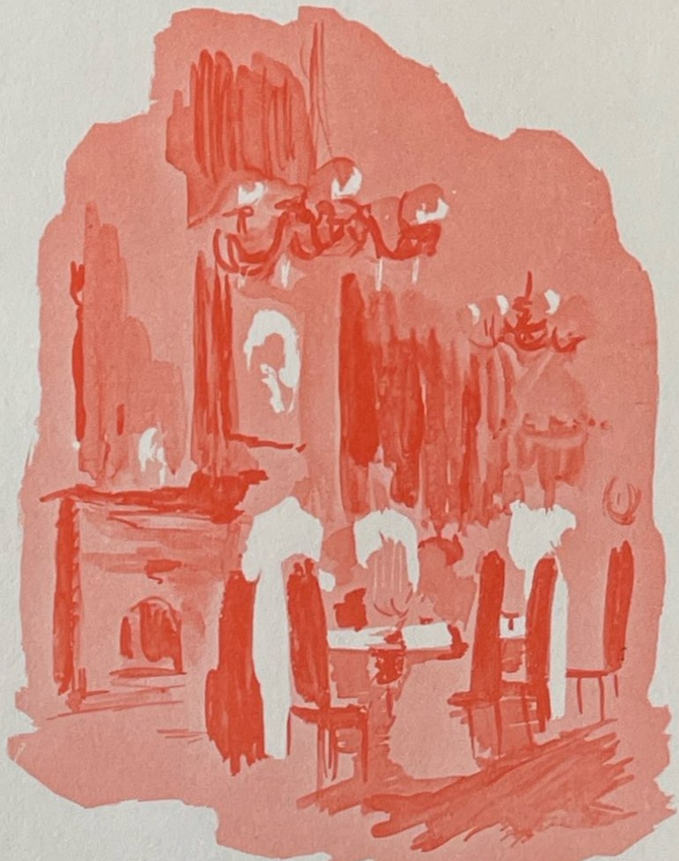
3 Stroke the pencil color on the overlay to add modeling. The pencil tone can be smudged for a blended effect with your fingertip or a pastel stump. Remove excess pencil color with a piece of cotton or a very soft eraser.

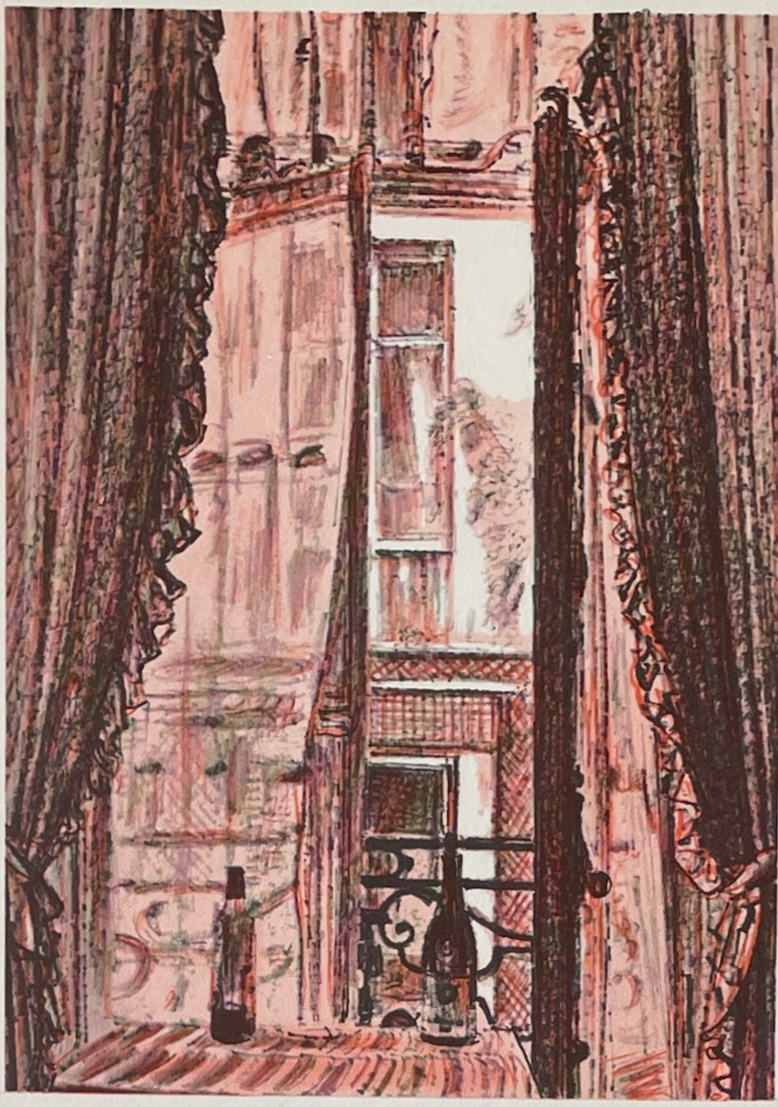


4 The liquid color can be added like a regular wash on the color coating or directly over the pencil modeling. Use it freely. Excess liquid color can be easily removed with clear water and a brush.

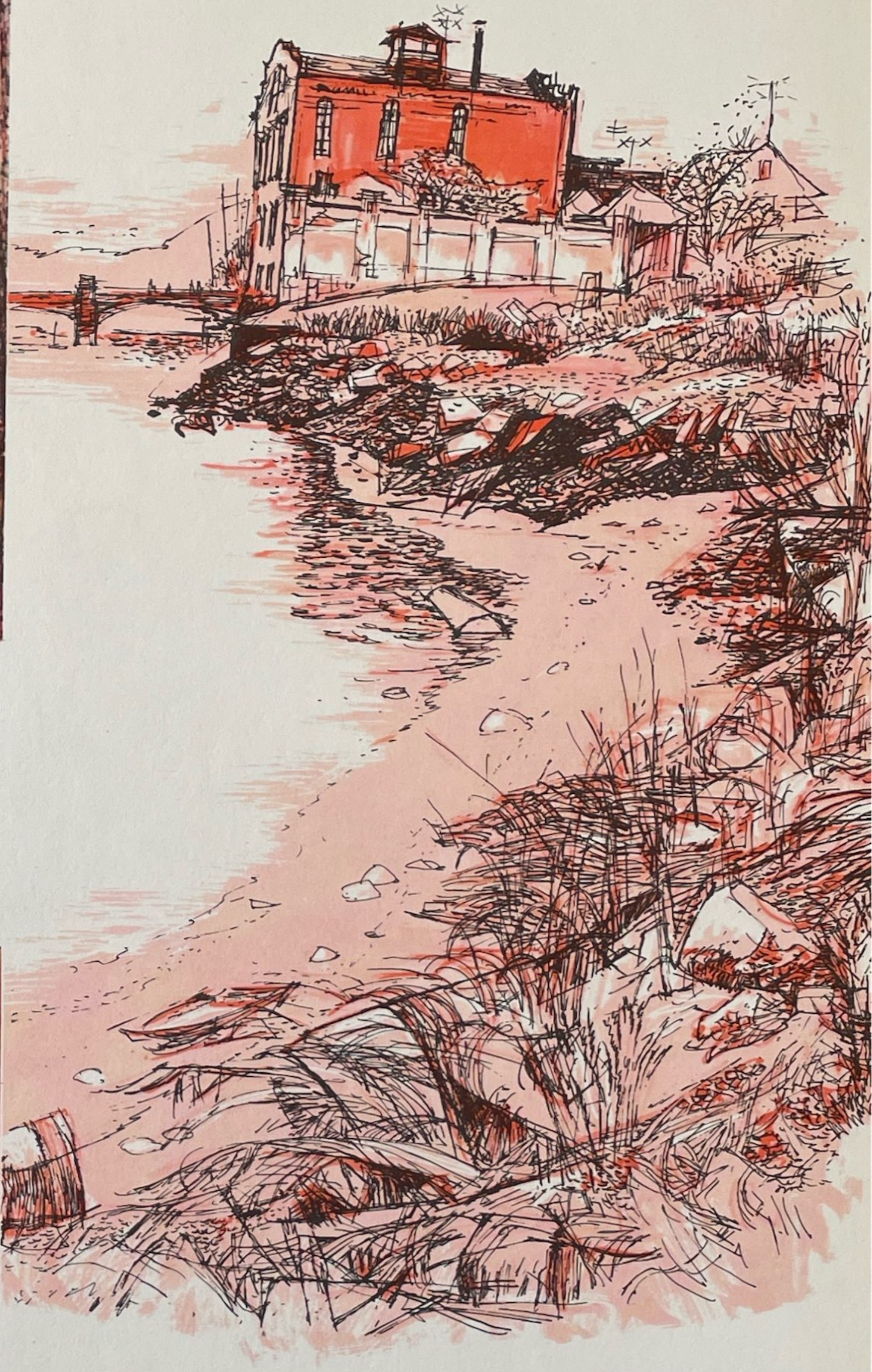
The picture at the right is a good example of a two-color tonal illustration, pre-separated with a Bourges overlay. The combination of the tones on the black and white art and on the color-separation overlay produces a very rich effect. It is also very easy to reproduce. At the far right is the overlay by itself. By careful comparison you can see that the artist has taken full advantage of the possibilities of this process. Working with the color and black separated gives you the advantage of absolute control over both colors.



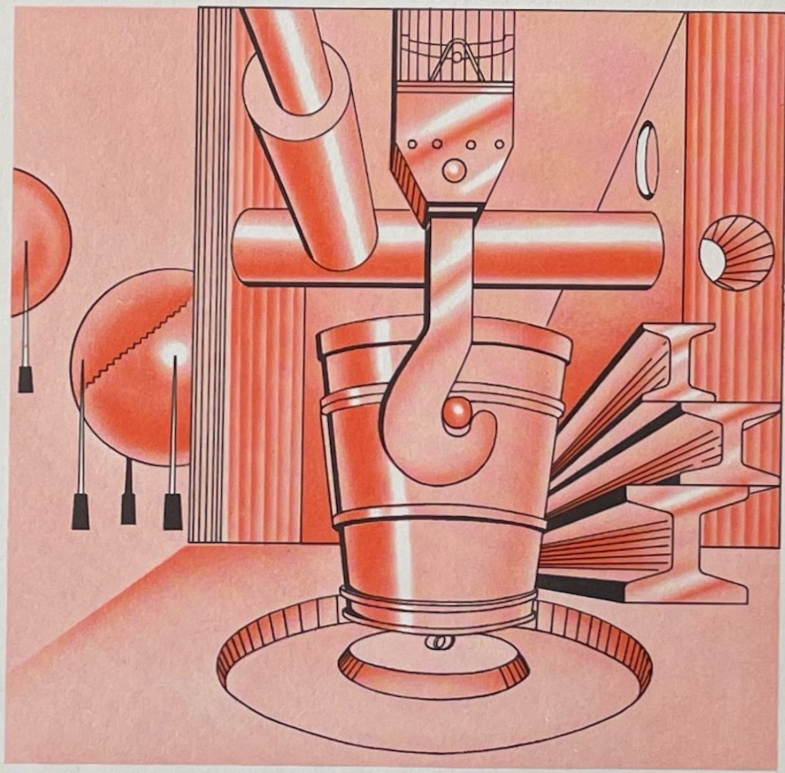




Here the Bourges overlay is 10 per cent. However, instead of using the liquid color for tonal gradations, just the pencil was used, in order to carry through the same feeling and technique as in the black and white drawing under the color overlay. If you look closely you will be able to see the pencil texture in both the black and white areas and the color.



Here is yet another kind of two-color treatment, in which the color is handled in a very free, loose technique on an overlay placed over a simple black and white line drawing. First, liquid coloremover was used to remove the color coating from the background, leaving the pale shape of color that carries the eye through the illustration. The stylus was used sparingly for the high lights; then both pencil and liquid color were used to add the gradations. The pencil was smudged into the coating for blended tones, and the liquid color was used for brush work to bring out details.



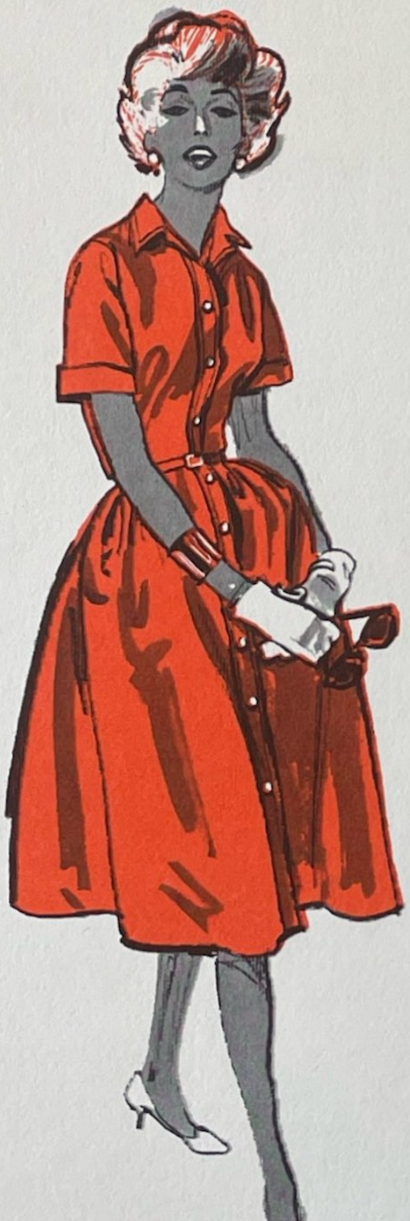
Liquid color was airbrushed on a 30 per cent Bourges overlay to create modeling in this drawing. The sharper high lights were made by removing the color coating with the stylus. The softer high lights were achieved by airbrushing white opaque on the color coating. The airbrush was controlled by spraying through slots cut in light cardboard held slightly above the surface of the art. In this way, soft edges were maintained, and the airbrushing was done without the use of friskets.

Bourges – line, tint, and tone

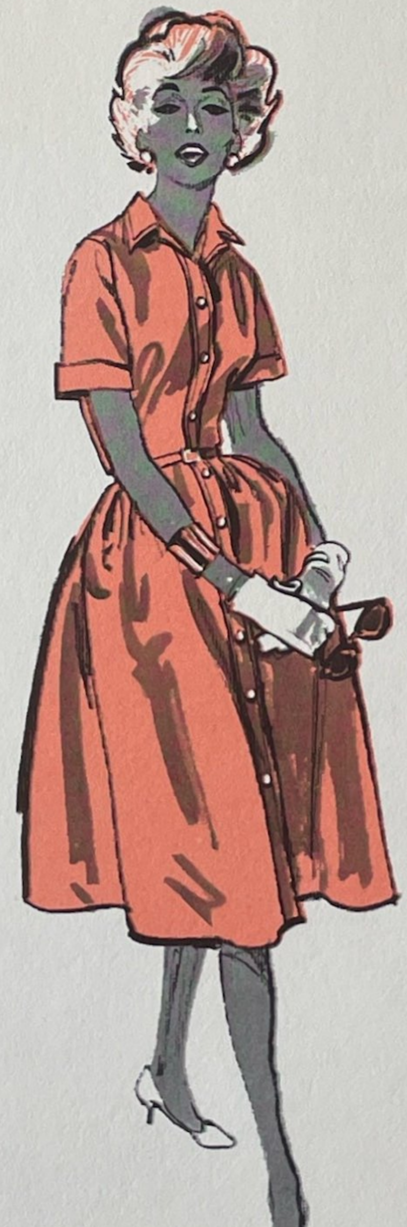
As you have already learned, line, tint, and tone are the three basic categories for reproduction. This holds true for art prepared by the Bourges process of color separation as well.

You know that the simplest kind of color to reproduce is line, which would mean a flat, solid color. A screen tint of that color would give you a flat light color and create quite a different effect. You would prepare your color overlay just as you would for line copy, and instruct the platemaker to give you a screen tint in any percentage you desire. This generally costs slightly more than ordinary line copy.

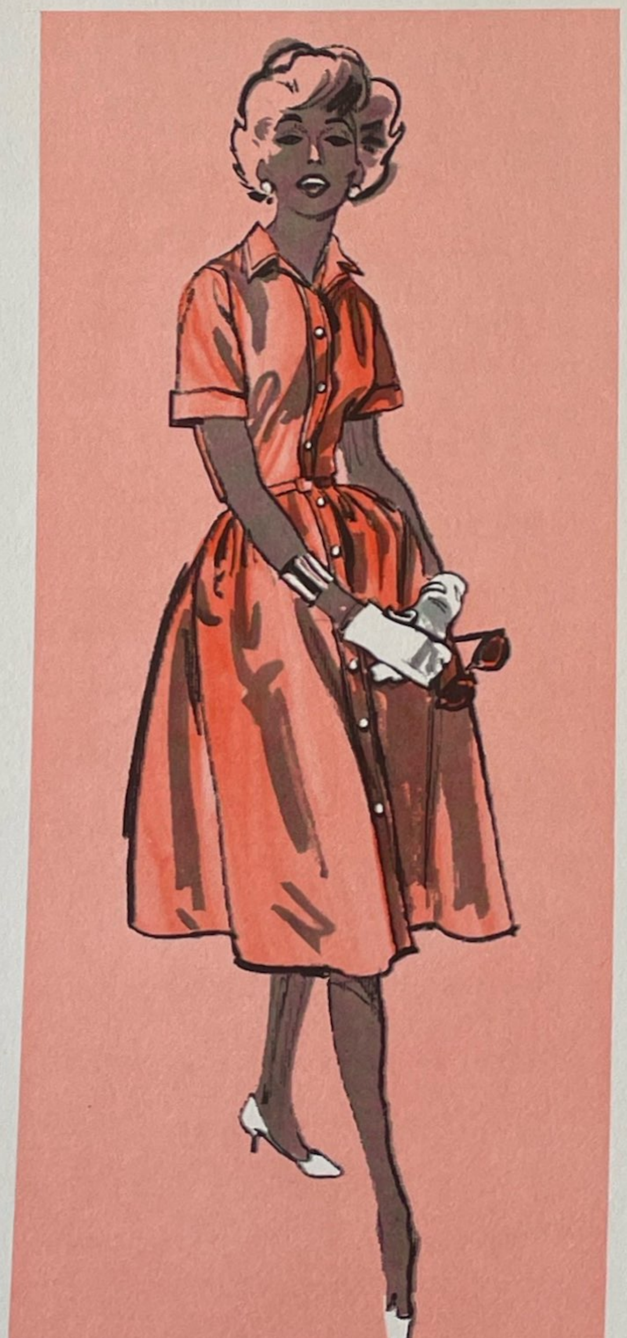
A color overlay with gradations of tone and modeling must be reproduced as a halftone. In the example we show below, a drop-out halftone was used because of the complete absence of color in gloves and shoes. The halftone, of course, costs more than either the line or tint overlay, but with pre-separated art this would still represent a saving over the cost of reproducing a drawing painted in two colors.



Line: Here the overlay was solid color, and was reproduced as line under the black and white halftone.



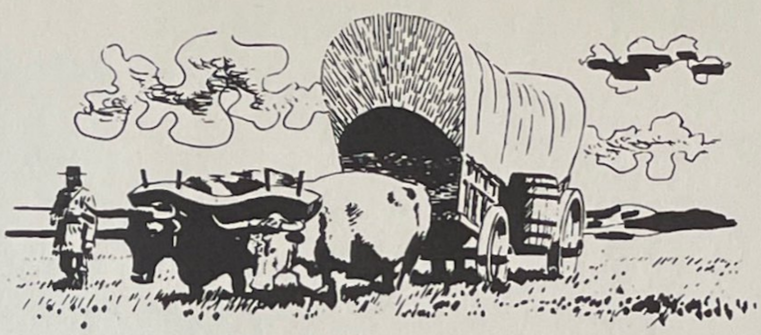
Tint: Here the same overlay was used as for line copy at the left, but a 40 per cent tint of color was requested.



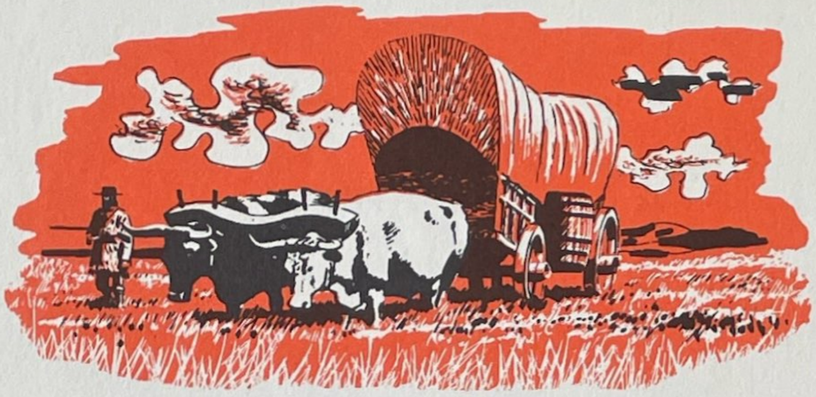
Tone: Here liquid color was added over a 30 per cent Bourges overlay. The high lights were removed with the stylus.

Variety in technique

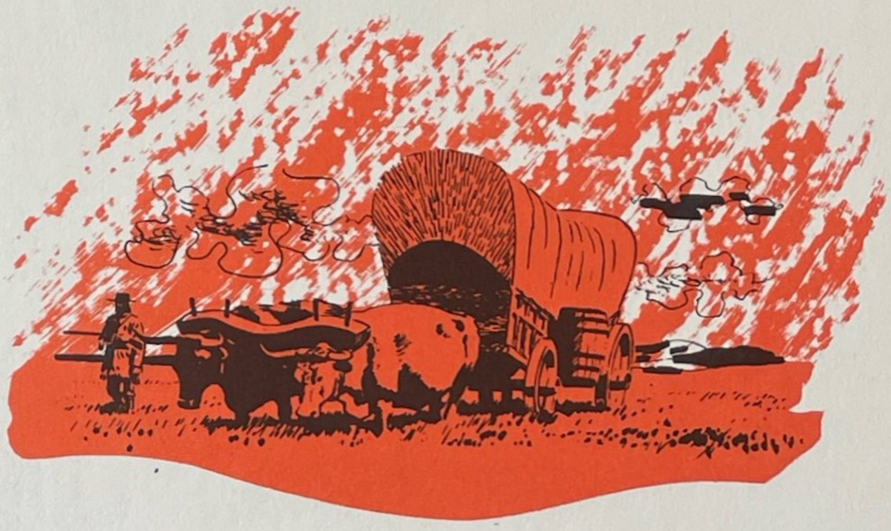
On this page we take one black and white illustration and show how you can apply different techniques to it to create various effects. Study these examples carefully – they give you further insights into the possibilities of the Bourges process and how you can use it to get your picture idea across to the viewer. The drawings on this page are reproduced in their original size.



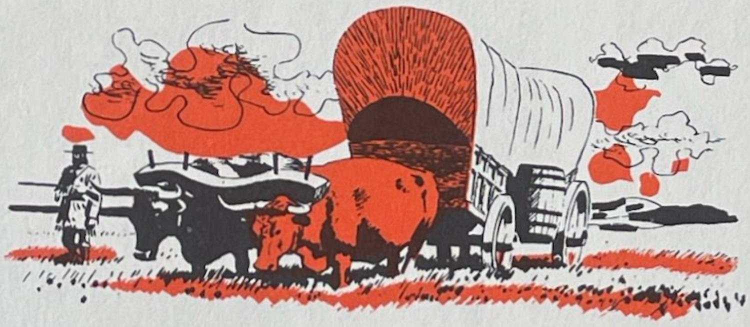
This is our starting point, the black and white illustration. Now let's see some of the different effects that can be achieved by using a variety of techniques.



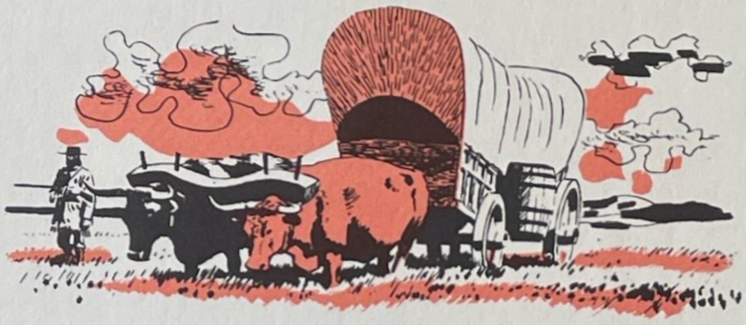
On a 100 per cent overlay, the broad end of a stylus was used to remove the color coating around the outside of the drawing and from the more solid areas within it. Then the fine point was used for the details, such as the prairie grass in the foreground.



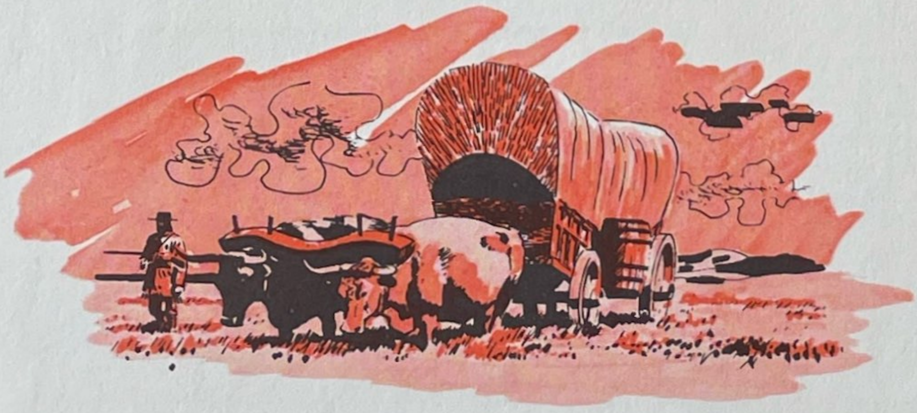
The textured effect in the background was created by putting a 100 per cent overlay sheet on coarse-textured paper and scraping the color coating with the flat edge of a razor blade. This duplicated the texture of the paper beneath. The solid shape of color in the foreground was cut out of a 100% adhesive sheet and applied to the overlay.



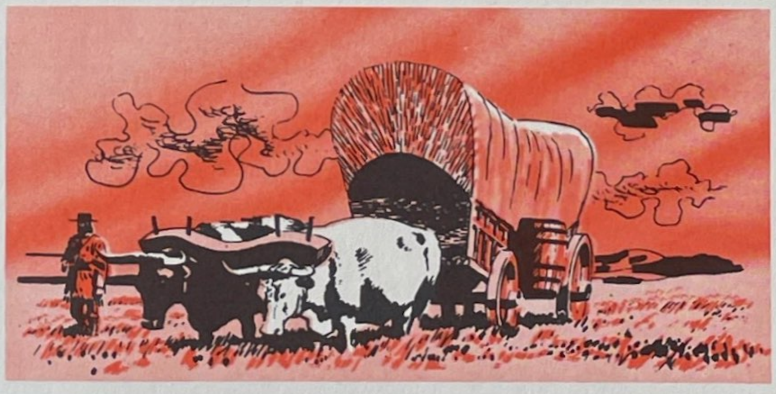
Here the color itself creates a design. The artist did not follow the black lines on the illustration, but used the color shapes to add interest and depth.



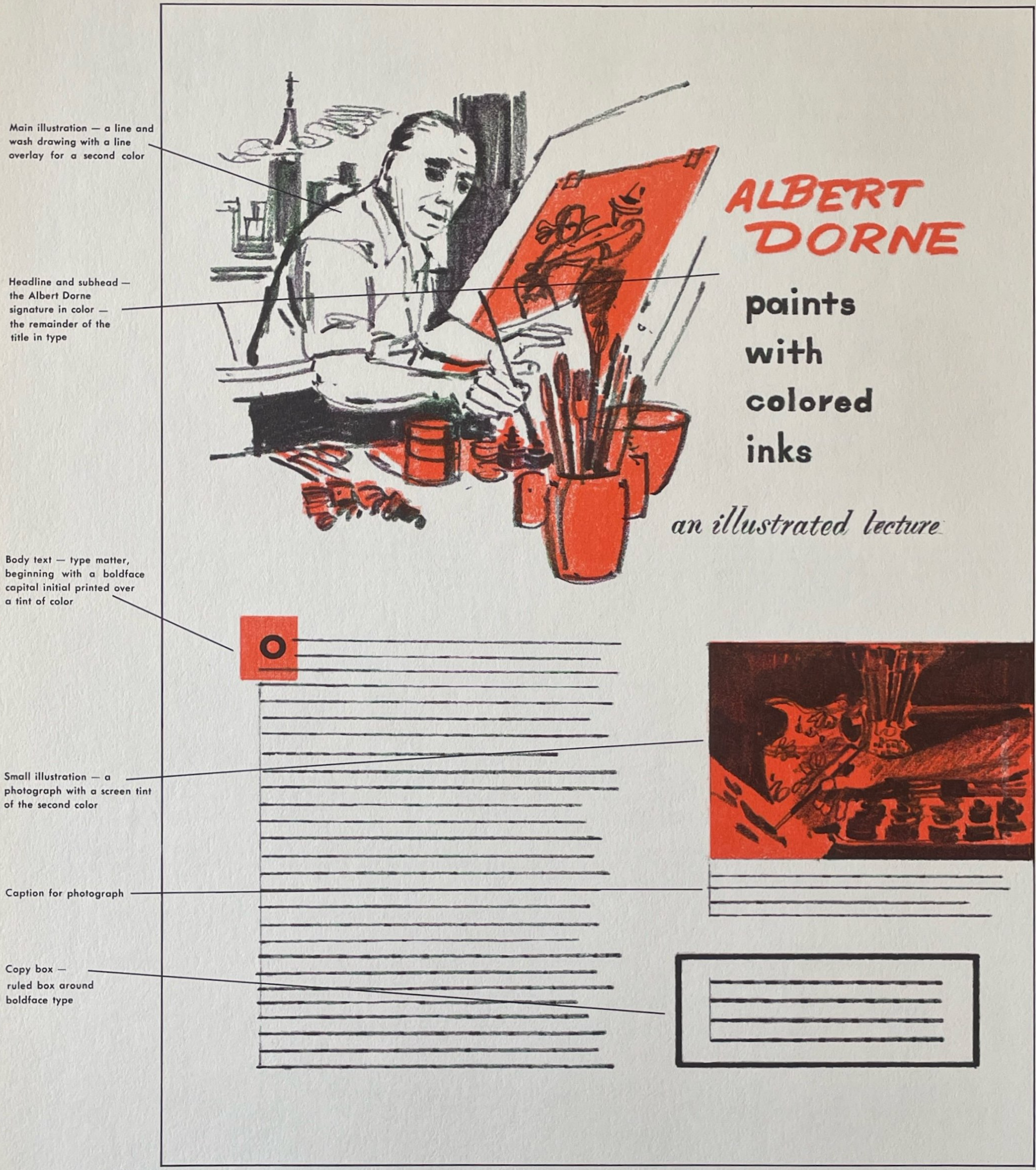
Here the same overlay was used as in the drawing to the left, but the color was screened to a 50 per cent value. Note what a difference this lighter value makes.



This tonal color overlay is, of course, reproduced in halftone. To get the loose, free feeling with the color, a liquid color wash was added over a 10 per cent overlay, and then the color coating was removed up to the edge of the wash tone.



This effect was created with a little more elaborate handling, on a 10 per cent sheet. The cloud formations and effects in the background were done with liquid color in an airbrush. In the wagon and grass, modeling was added with a brush and liquid color, and the high lights were done with the stylus.


Main illustration — a line and wash drawing with a line overlay for a second color
Headline and subhead — the Albert Dorne signature in color — the remainder of the title in type
Body text — type matter, beginning with a boldface capital initial printed over a tint of color
Small illustration — a photograph with a screen tint of the second color
Caption for photograph
Copy box — ruled box around boldface type
ALBERT DORNE
paints with colored inks
an illustrated lecture
O

Here is an artist's two-color layout done in pencil and pastels. In the following step-by-step photographs we demonstrate how to make a mechanical for this or a similar layout.

How to make a mechanical

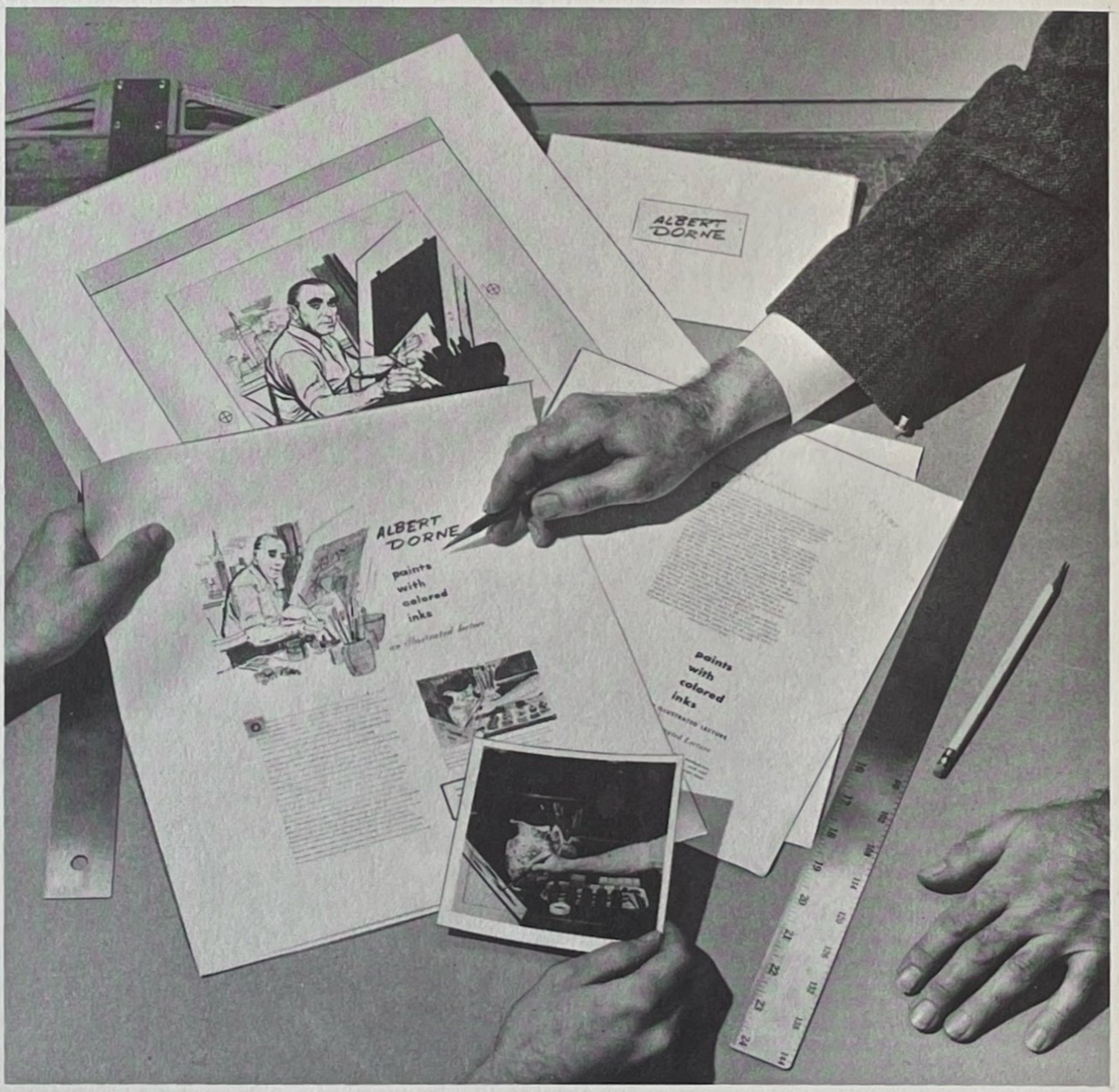
Much of the knowledge you have gained in this and the previous lesson may eventually be put to use in making mechanicals. It is said that mechanicals are the backbone of the art business. Certainly this is true of art studios – and the artist who can make the best mechanical will be the backbone of his particular studio.

Never underestimate the importance of rendering a mechanical carefully. A mechanical is the layout come to life. The finest layout can be ruined by thoughtless preparation of the mechanical – and it is the responsibility of a good studio artist to see that this never happens. A mechanical must be clean and accurate – remember, the slightest smudge or blur may cause trouble for the platemaker. A mechanical well rendered by an experienced artist almost sparkles with cleanliness and accuracy.

The first and perhaps the most important requirement for making a good mechanical is thought. When you receive a mechanical to prepare, it's the thinking, checking, and planning you do in the first ten minutes that often determine whether you are going to put this one together fast or slow – and perhaps right or wrong. Fixing errors can be very time-consuming. It is far better to take a little longer at the start and do the job correctly.

In this demonstration we show you how to prepare a two-color mechanical. Let's say that you have just received the full-size layout on the facing page from an art director and he has asked you to make a mechanical for it. He has also given you the elements that go into this mechanical. You might begin by making sure your T-square, triangles, and table top are clean – pencils sharp – everything on hand and ready. All photographs, photostats, type proofs, etc., from previous jobs should now be filed or discarded so that nothing will interfere or distract.

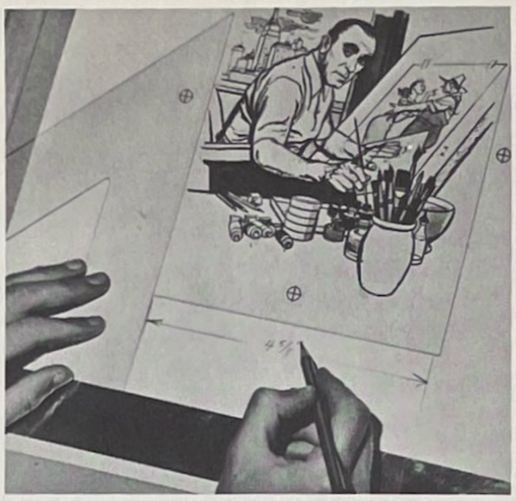
All the procedures shown in this section have been demonstrated in more detail earlier. If there is anything you do not understand, we suggest that you review Lesson 21 and the preceding pages of Lesson 22. The mechanical which is to be made could be used in either offset or letterpress.



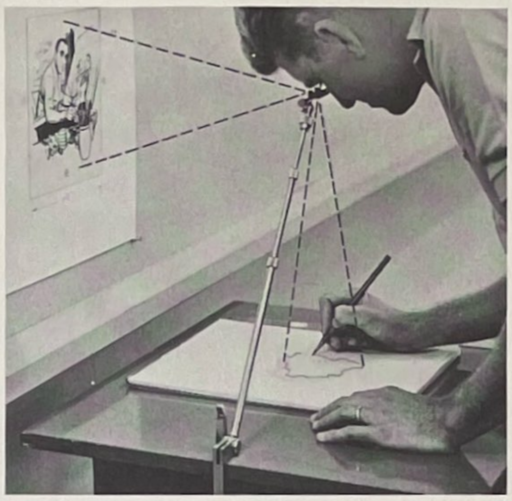
1

Check the job to be done. First, study the layout. Is it in one color or two? What is the page size? Is the main illustration line or halftone — square halftone or silhouette? Is it to be reproduced same size, or will you have to order a photostat to indicate size and position? Has the text been proofread? Check the copy area in the layout to see that it corresponds to the type proof — if it doesn't, a size adjustment has to be made for it. Inspect the type proof to be sure there are no broken letters, the lines are aligned, and the type is crisp and clean. Now is the time to ask questions. Keep in mind that this is that first ten-minute check which will pay big dividends later on.

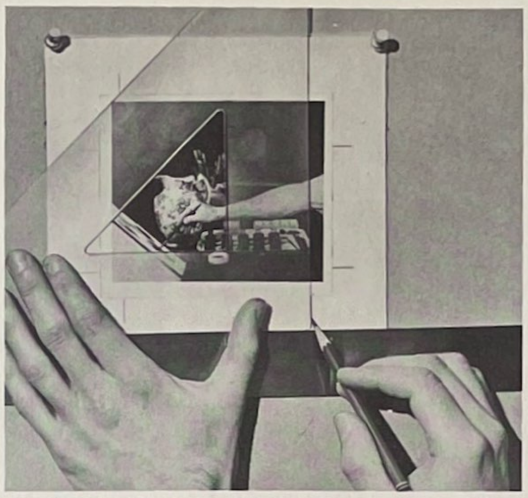
The first thing to do is order photostats or make lucy drawings. Start with the main illustration — notice it is larger than indicated on the layout. Since its size and position are to be indicated on the mechanical, either mark it for a reduced photostat or use a camera lucida to reduce it. We will demonstrate both methods.



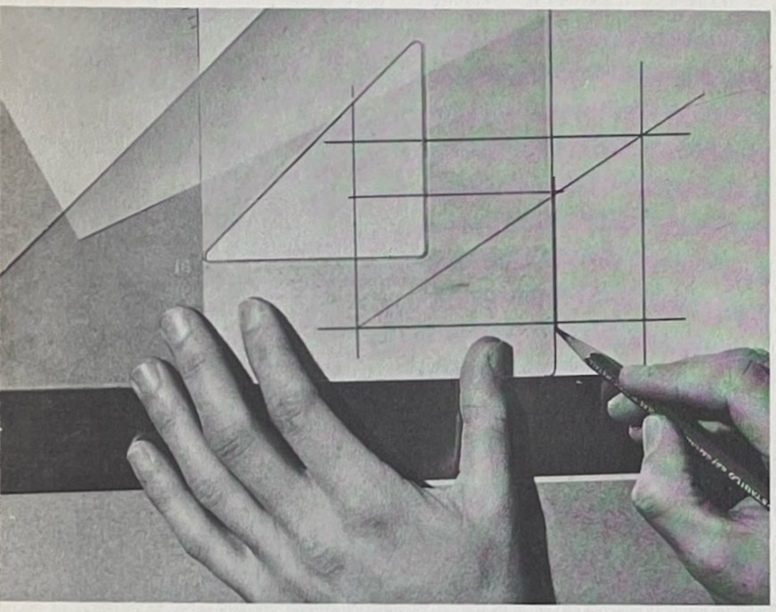
2 To mark the art for a stat to the size the layout calls for, tack the illustration to your drawing board and, using your T-square and triangle, run two short vertical lines down from the left and right of the illustration as shown. Next, measure the width of this art on the layout and write this measurement below the illustration. Draw arrows from this number to touch the vertical lines.



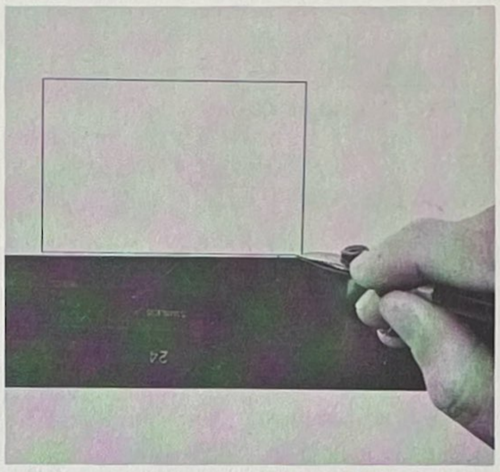
3 If you decide to lucy the art down to the required size, tack the main illustration up in line with the lens of the lucy and place a pad of light bond paper on the lucy table. When the lucy is correctly adjusted, you will see the reduced image directly beneath it on your pad. Now draw an outline of this image in red pencil. As we explained earlier, red lines on a mechanical are called "key" lines and merely indicate position. The platemaker will always remove them from his negative.



4 Dry-mount the photograph on a piece of mounting board, then check it against the layout to see if all of it is to be included, or where to crop it. Now tack the mounted photograph to your drawing board and, with a T-square and triangle, indicate the cropping on the mounting board. Before mounting a photograph, always check the back for the photographer's credit line or other information, and copy it on the mounting board.

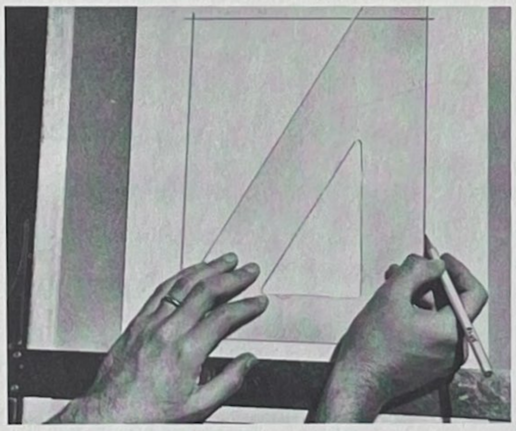


5 Like your main illustration, the photo needs reduction to the size shown in the layout. The reduced width for the stat is indicated between the lower crop marks. Then, on a sheet of tracing paper over the photo, lightly draw lines from each of the crop marks until you have drawn a rectangle of the cropped size and shape. Remove the tracing paper from the photo and, using a diagonal, scale this rectangle down to the size shown on the layout.

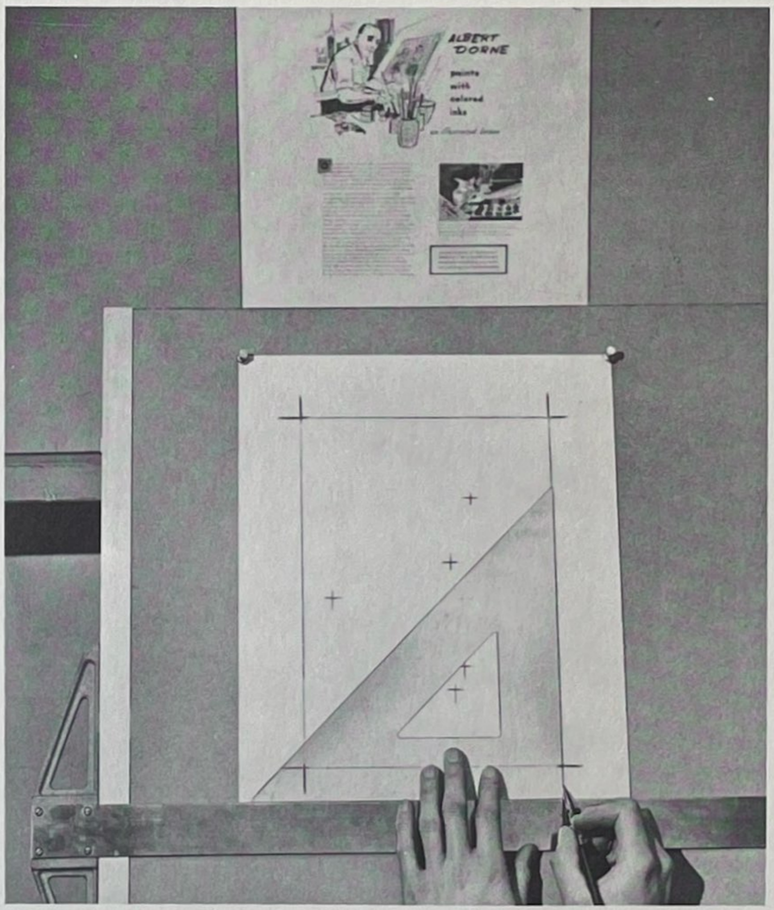


6

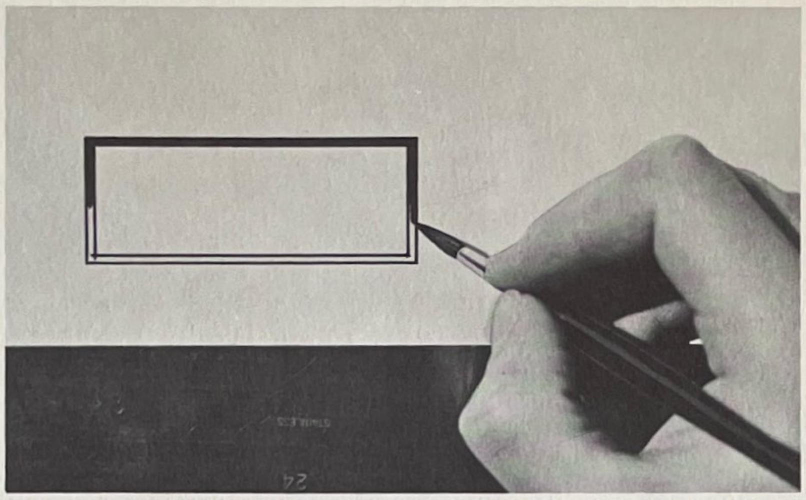
Trace this reduced rectangle to a sheet of bond paper and, with red ink and your ruling pen, ink in the rectangle, adding ⅛ inch to the right side, where the art touches the edge of the layout. This extra ⅛ inch is called "bleed" and is used whenever art touches the edge of a page. It allows a little tolerance for error when the paper is trimmed. This rectangle will be a key line to indicate the position of the photo. Later you mount your photostat for identification within this key line. It could be ruled directly on the mechanical, but adjustments are made easier when it is on a separate piece of paper — as you will see later.



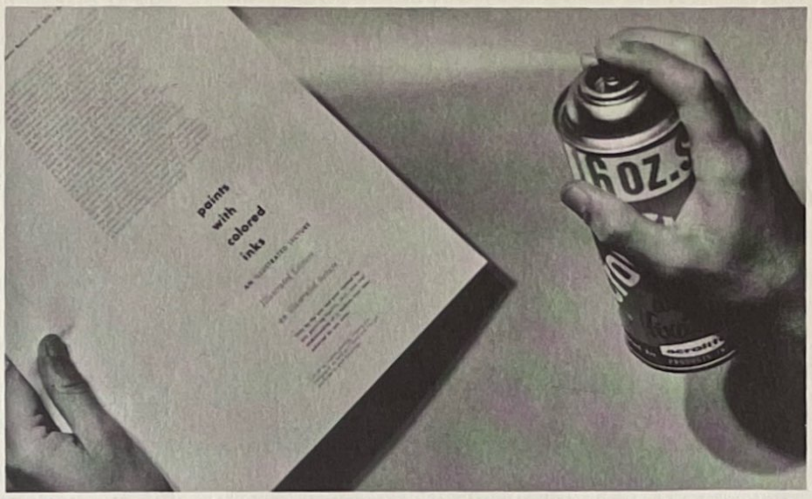
7 Now tack to your drawing board a piece of illustration board at least 2 inches larger all around than your page size. This will be your mechanical, and the 2-inch margin is for writing directions and to protect the edges of your mechanical in handling. Once tacked down, the mechanical is not moved until finished. With a light blue pencil, rule a rectangle the size of the page — in this case 8¼ x 11¼ inches — on your illustration board. The lines are drawn in light blue because blue does not register on the platemaker's film.



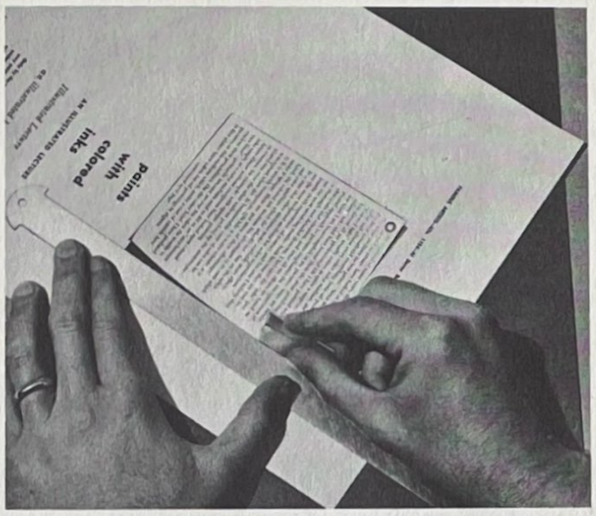
8 Tack your layout in front of you for constant reference and, still using light blue pencil, mark on the mechanical the approximate position of all the elements shown on the layout. Now, with your ruling pen set very fine, use black ink to draw in the crop marks to indicate the corners of the page. Cross the corners about 1/16 inch inside the page margin. To avoid damaging your type proofs, it is best to do all inking on the mechanical before cementing them down.



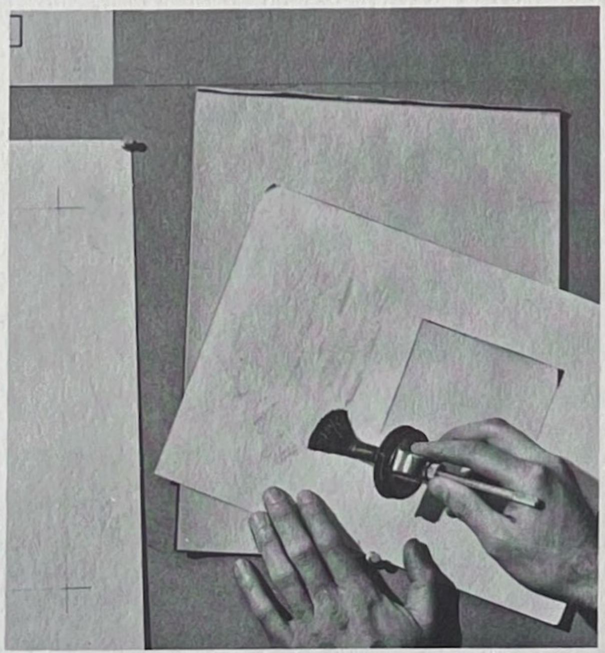
9 The layout indicated a box with copy inside. With ruling pen, T-square, and triangle, draw this box on a sheet of bond paper. Don't try to set your ruling pen wide enough to draw one thick line. It is better to draw two finer lines and ink in between them with a small brush. (The box could also be made with rules by the typographer.)



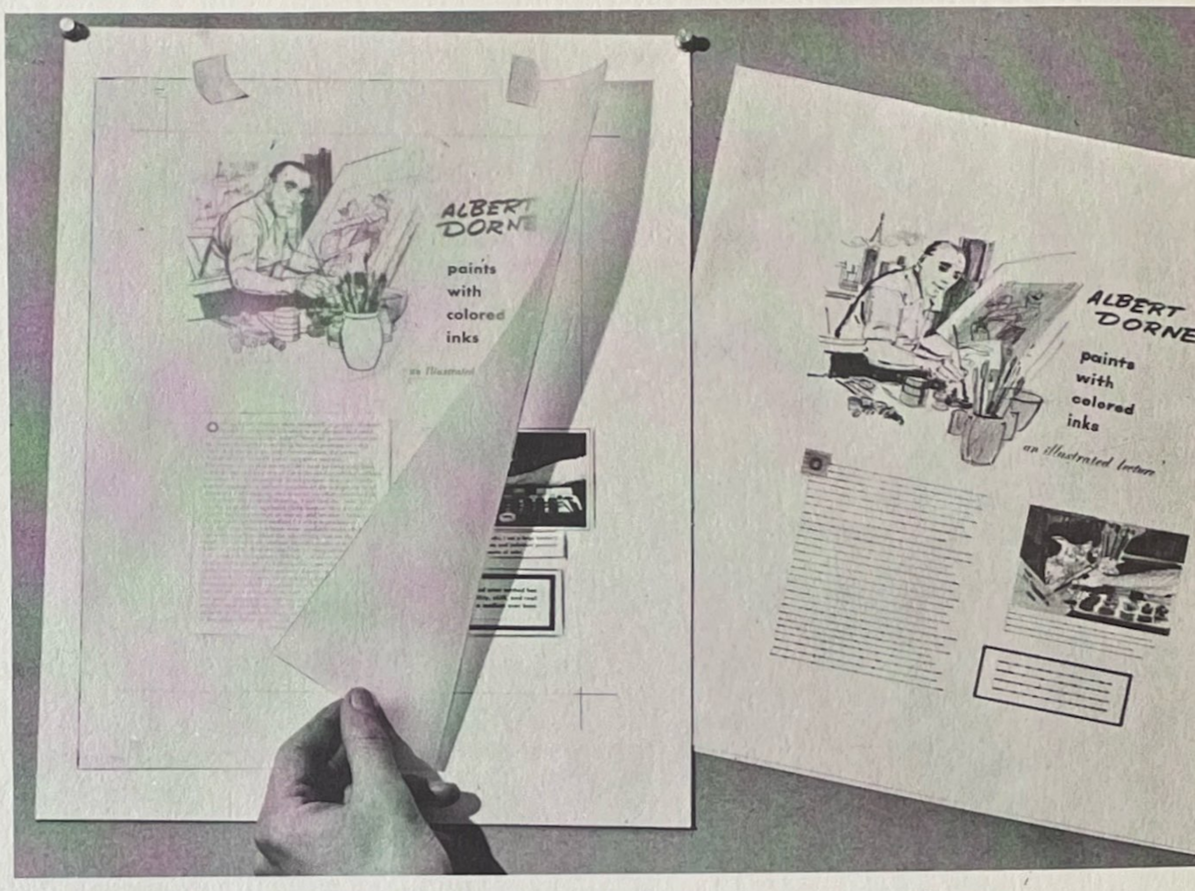
10 Now you can lightly spray your type proof with a type fixative. This is not absolutely necessary, and is done chiefly in rush jobs where the type proof is still wet. Nothing is more exasperating than smeared type on a finished mechanical ready for the printer.



11 Using an old pad back to cut on and a sharp razor blade or X-acto knife against a straightedge, cut the body copy out of the type proof, leaving a margin of about ⅜ inch all around the type. Don't do your cutting with scissors — they won't give you the precise edge you need for a neat-looking mechanical. The body type will be wet mounted. (Large proofs are often wet mounted because they can be easily moved into exact position while the cement is still wet.)



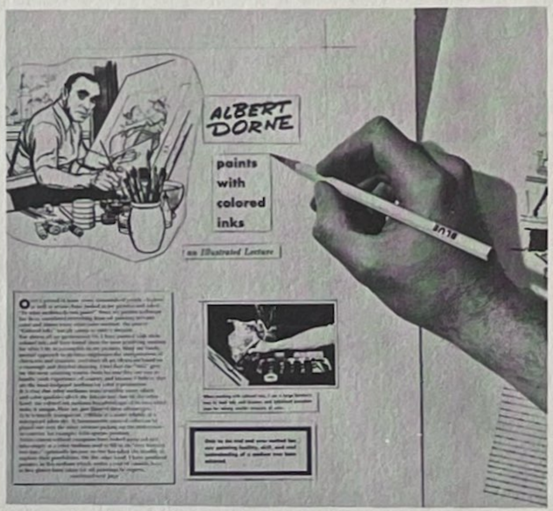
12 The rest of the proof consists of small blocks of type which can be dry mounted, because they are easier to position. So turn the sheet face down and coat the remaining part evenly with rubber cement. The photostats have been returned by now — coat them in the same manner and set them aside to dry.

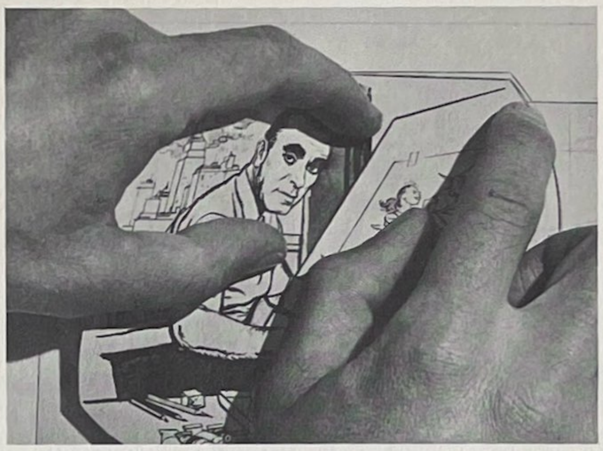


13 This is the critical point — when you assemble the elements in a mechanical and compare it with the layout. Does it do what the layout intended? Before cementing the elements down, carefully position and adjust them so they follow the layout properly. Lightly tape a piece of tracing paper over the mechanical to hide the cut edges of each element — this will help you see what the finished page will look like.

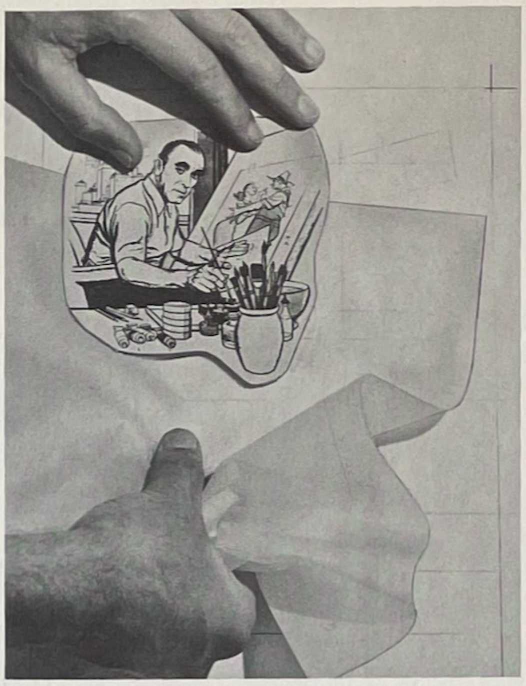
14

When you are satisfied that everything is in its proper position, trace blue lines lightly around all of the elements that will print in black so that you can cement them into their exact position.

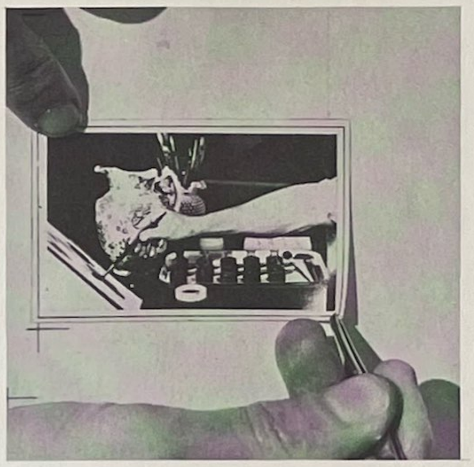




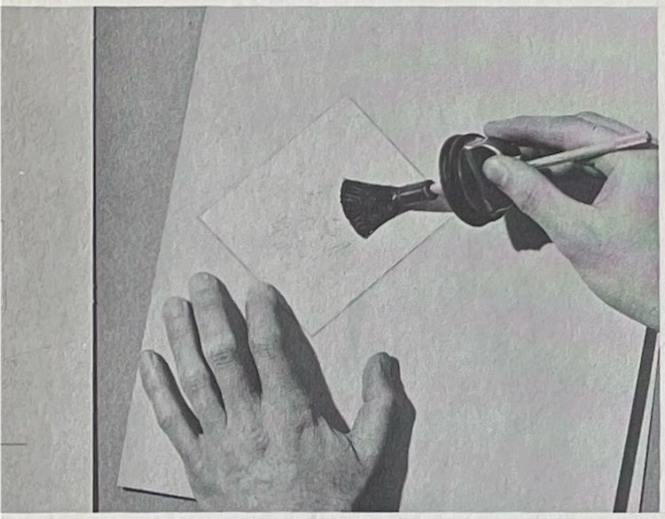
15 With rubber cement, coat the areas within the blue outlines for all the elements that are to be dry mounted on the mechanical. While the cement is drying, trim the irregular shape of the photostat or sketch for the main illustration, using scissors. Now place a slip sheet to within a quarter-inch of the top of the area to be occupied by the stat. Position the stat over the sheet exactly within this area.



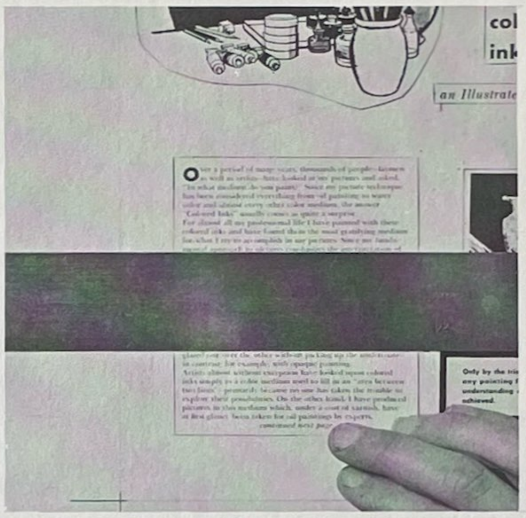
16 Press the two rubber-cemented surfaces together at the top and gently pull out the slip sheet, at the same time pressing the stat onto the dry rubber cement. Last, using a clean tissue, smooth the stat down with a triangle.



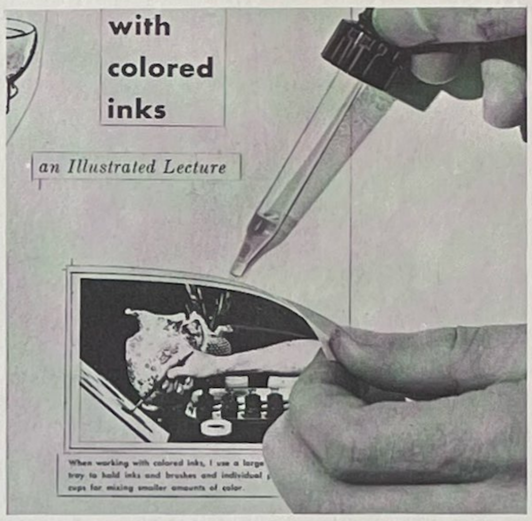
17 Trim the stat of the photograph 1/16 inch smaller on all sides and cement it within — and not touching — the red key line. The stat identifies the halftone and indicates its size and position. Dry-mount this unit in position on the mechanical as shown here. Small pieces are easily held with tweezers.



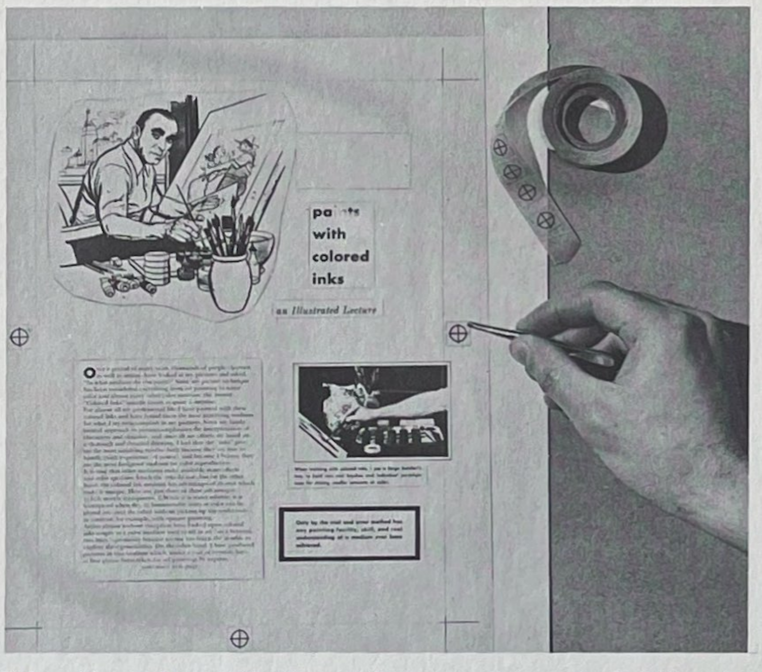
18 The headline, subhead, and photo caption are dry mounted on the mechanical. Now the large type proof will be wet mounted. Place it face down on a pad and evenly coat the back of the proof with rubber cement.


an Illustrated
Only by the tri
any painting f
understanding
achieved.

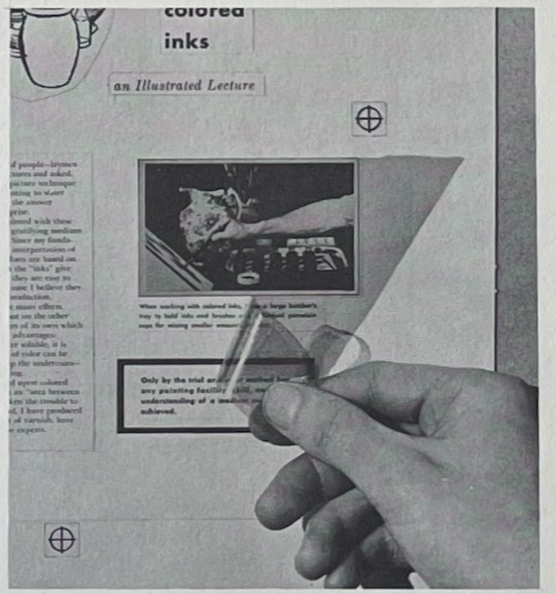
19 Place the proof in its approximate position on your mechanical and line it up under the T-square. While the rubber cement is still slightly wet, the type is shifted gently into its exact horizontal position. Then place a clean tissue over it and press it flat with the edge of a triangle. Continue the process until everything that will print in black is cemented in position.


with
colored
inks
an Illustrated Lecture
When working with colored inks, I use a large
tray to hold inks and brushes and individual
cups for mixing smaller amounts of color.

20 Occasionally an element will have to be moved — in this case, the photostat, key line, and caption must be raised about 1/16 inch. Remember, the red key line was drawn on separate bond paper, so this and the stat can be adjusted as a unit. Now, with a little rubber-cement thinner (in an eye dropper), the bond paper and caption are loosened and moved.

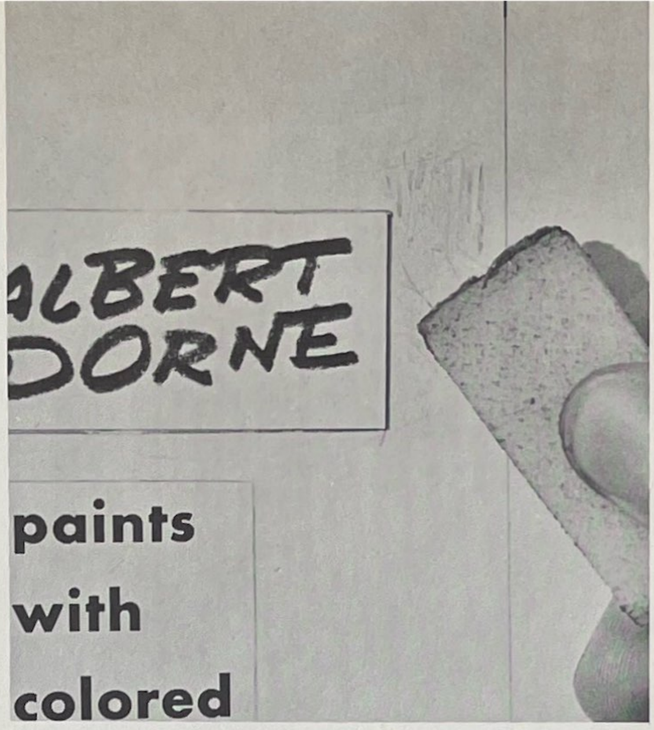

paints
with
colored
inks
an Illustrated Lecture
Only by the trial and error method has
any painting facility, skill, and real
understanding of a medium been
achieved.

21 Stick register marks on both sides and the bottom of the mechanical. Then, for color separation, tape a clear acetate overlay on the mechanical and position register marks on this exactly over the ones beneath. Register marks can be drawn with a ruling pen, T-square and triangle, but pre-printed ones are real timesavers.

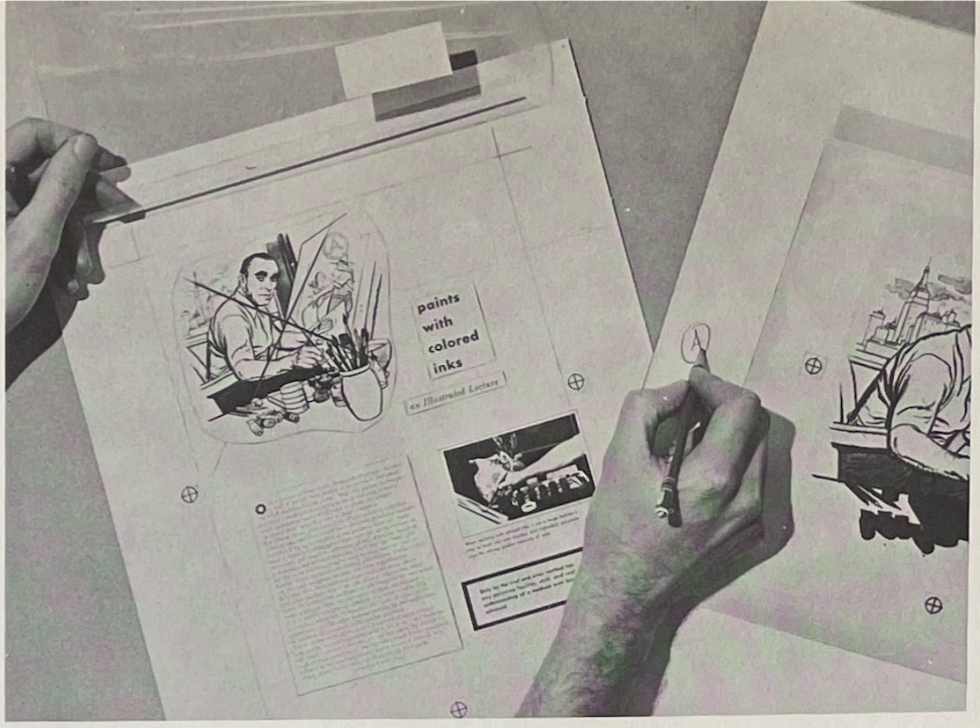

colored
inks
an Illustrated Lecture

22

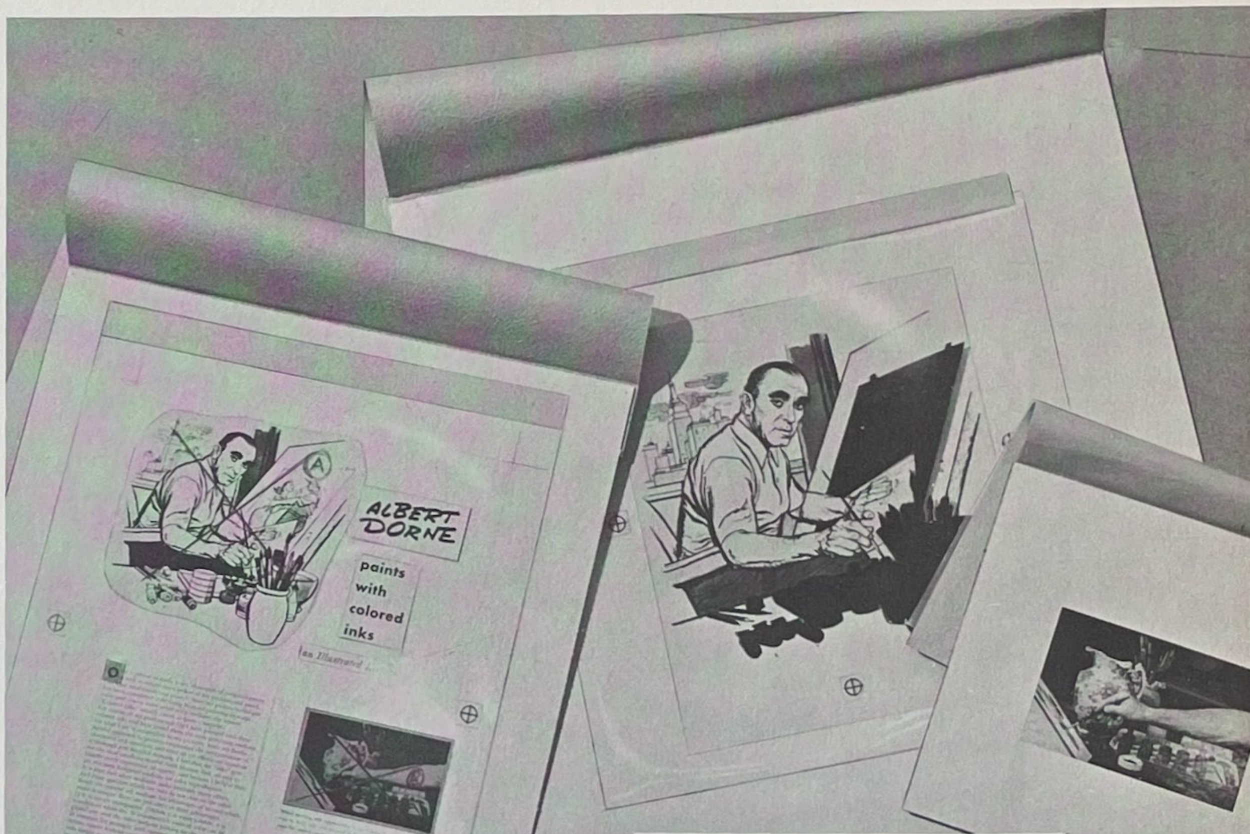
Next, a small piece of adhesive-back Bourges sheet is placed over the photograph area and trimmed with a razor or sharp X-acto blade exactly to the red key line beneath it. The unwanted portion can then be peeled away as shown here. Next a Bourges sheet will be applied over the capital initial and the signature will be dry mounted on the overlay.



23 With a rubber-cement pick-up, clean away every scrap of excess cement on the mechanical and the overlay. Any piece left will cast a shadow which the platemaker will have to opaque from his negative.



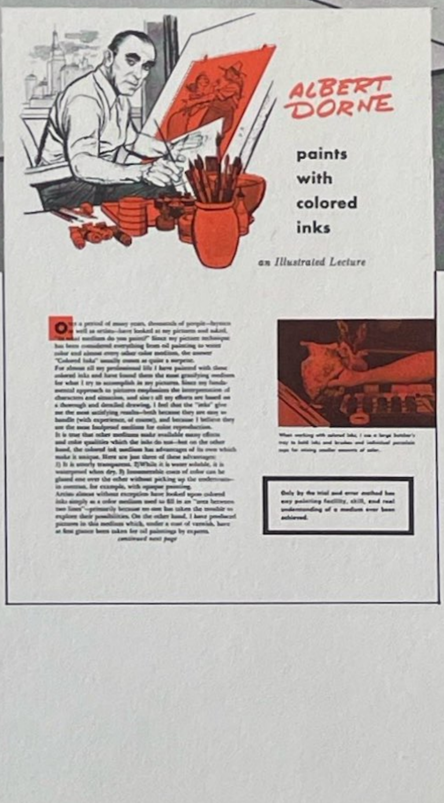
24 Photostats placed on a mechanical to indicate position should be crossed out so the platemaker will know they are not copy for photographing. Lift the acetate overlay and, with a pen or a Stabilo pencil, draw a large X across the photostat; then, in a light area where it will show, place a key letter A in a circle. Write a corresponding circled A on the actual art which is to be reproduced and is represented by the photostat. Each piece of separate art should be keyed to its corresponding stat with a different letter.



25

Here are the finished mechanical and art. Flap the mechanical with a piece of tracing paper taped along the top edge. On this sheet you should indicate to the platemaker which elements are to print in color. Last, a protective flap of heavy paper goes over the top. We bring this two inches over the back of the mechanical and dry mount it. From white bond paper, cut a mat to the size of the crop marks and tape it over the photograph. After a protective flap of heavy paper is placed over each illustration, the completed package is ready for a final inspection.

Final inspection: A mechanical should never leave your drawing board until it has received a final inspection to make sure that it is an expression of the best work that you can do. Check the over-all page size. Do you have crop marks on your page? Did you use register marks for your overlay? If you used a stat for reproduction it should be sharply black and white — no grays or fuzziness. Check to see if any of your type has been blurred or damaged. Did you put a tissue overlay on your mechanical and indicate color separation? A careful critical look at this time is your best insurance against mistakes and omissions.



ALBERT
DORNE

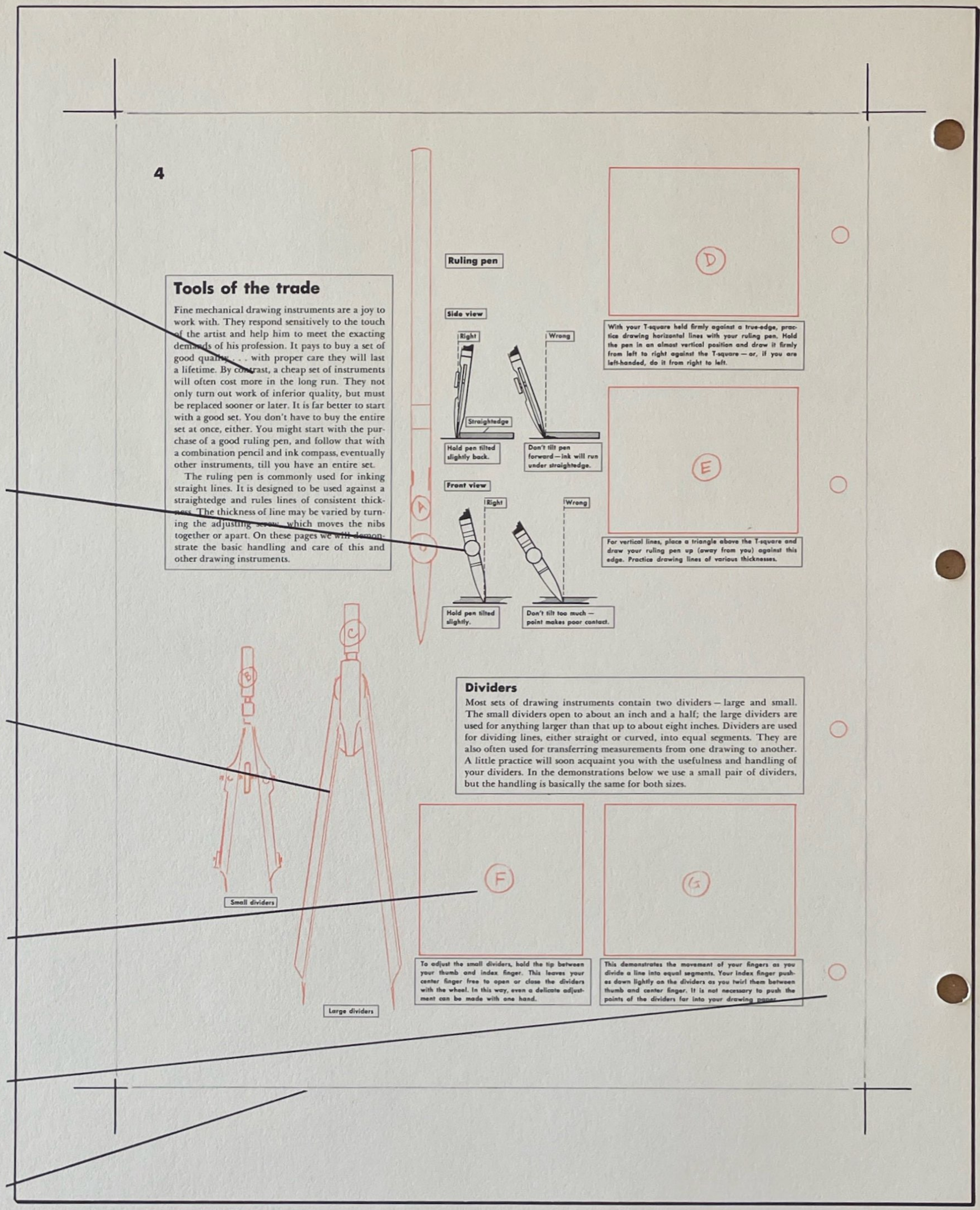
paints
with
colored
inks

an Illustrated Lecture

Only by the trial and error method has any painting facility, skill, and real understanding of a medium ever been achieved.

26

Here is what this mechanical looks like after it is printed. We urge you to read and reread this demonstration and carefully study the step-by-step photographs and their captions. With the basic know-how we give you here — plus practical experience — you should soon be making good, accurate mechanicals.



4

Tools of the trade

Fine mechanical drawing instruments are a joy to work with. They respond sensitively to the touch of the artist and help him to meet the exacting demands of his profession. It pays to buy a set of good quality . . . with proper care they will last a lifetime. By contrast, a cheap set of instruments will often cost more in the long run. They not only turn out work of inferior quality, but must be replaced sooner or later. It is far better to start with a good set. You don't have to buy the entire set at once, either. You might start with the purchase of a good ruling pen, and follow that with a combination pencil and ink compass, eventually other instruments, till you have an entire set.

The ruling pen is commonly used for inking straight lines. It is designed to be used against a straightedge and rules lines of consistent thickness. The thickness of line may be varied by turning the adjusting screw, which moves the nibs together or apart. On these pages we will demonstrate the basic handling and care of this and other drawing instruments.

Ruling pen

Side view

Right

Wrong

Straightedge

Hold pen tilted slightly back.

Don't tilt pen forward — ink will run under straightedge.

Front view

Right

Wrong

Hold pen tilted slightly.

Don't tilt too much — point makes poor contact.

With your T-square held firmly against a true-edge, practice drawing horizontal lines with your ruling pen. Hold the pen in an almost vertical position and draw it firmly from left to right against the T-square — or, if you are left-handed, do it from right to left.

For vertical lines, place a triangle above the T-square and draw your ruling pen up (away from you) against this edge. Practice drawing lines of various thicknesses.

Small dividers

Large dividers

Dividers

Most sets of drawing instruments contain two dividers — large and small. The small dividers open to about an inch and a half; the large dividers are used for anything larger than that up to about eight inches. Dividers are used for dividing lines, either straight or curved, into equal segments. They are also often used for transferring measurements from one drawing to another. A little practice will soon acquaint you with the usefulness and handling of your dividers. In the demonstrations below we use a small pair of dividers, but the handling is basically the same for both sizes.

To adjust the small dividers, hold the tip between your thumb and index finger. This leaves your center finger free to open or close the dividers with the wheel. In this way, even a delicate adjustment can be made with one hand.

This demonstrates the movement of your fingers as you divide a line into equal segments. Your index finger pushes down lightly on the dividers as you twirl them between thumb and center finger. It is not necessary to push the points of the dividers far into your drawing paper.

Reproduction proofs of all the type — headlines, body copy, and captions, large and small — are inspected for alignment, broken letters, smudges and specks. If perfect, the proofs are trimmed to within ¼ to ⅜ inch from the type wherever possible. Then they are carefully cemented on the mechanical.

All line drawings or glossy photostats of them are carefully cemented on the mechanical in the exact size and position they will have when printed. The line art is placed on the mechanical with the same care given to the type matter.

All tonal art work and photographs that are to appear in silhouette are lucied in the correct size on bond paper and positioned on the mechanical, then keyed with a circled letter to the finished art, which is presented separately. This finished art appears at the top of the facing page.

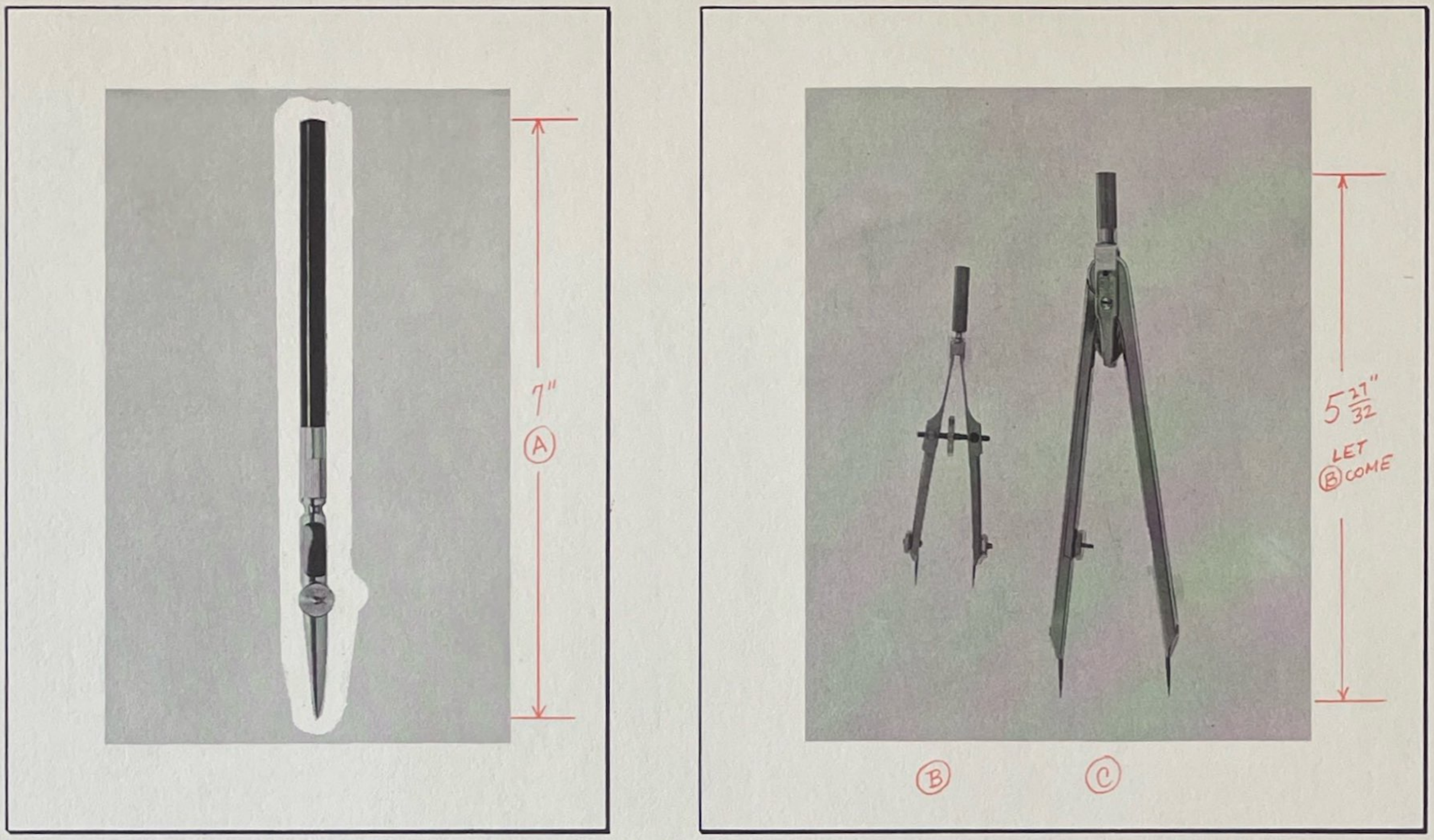
Any tonal art or photographs that are to be shot as square halftones are indicated with a red key line on the mechanical in the exact size and position that they will have when printed. They are also keyed to the finished art with a circled letter. The finished art for the square halftones appears at the bottom of the facing page.

These pages are always punched for use in a ring binder. Punch holes are usually indicated with red key lines.

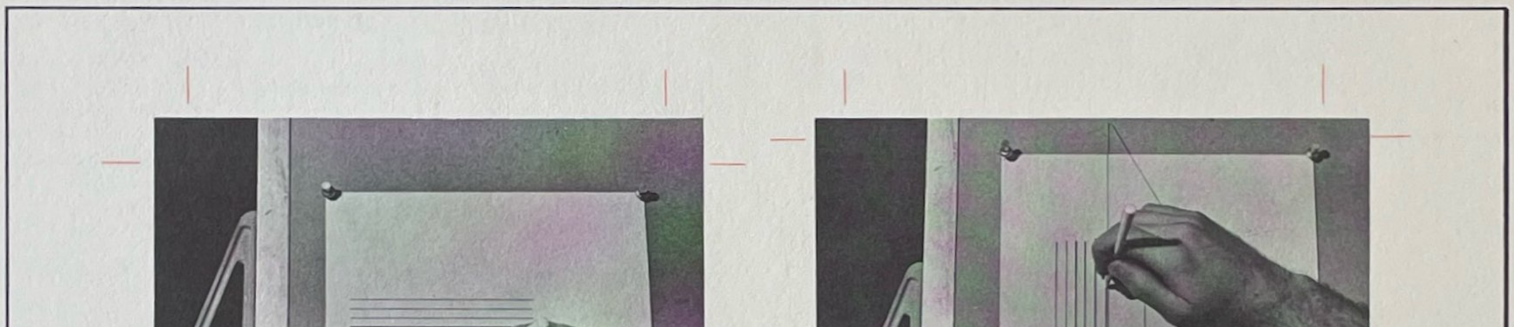
A blue pencil line is put around the entire page. This is often helpful to the artist and, since this color does not register on the platemaker's film, it will not appear on the plate.

Examples of mechanicals and art

Here, and on the following pages, we show you additional examples of mechanicals and finished art, so you can see how different kinds of mechanicals are prepared and presented to the printer. Shown immediately above is a mechanical (reduced about 50 per cent) for page 4 in Lesson 21 of your Course. In this and our other examples, notice that all line art, including the type, is cemented onto the mechanical. Halftone art is presented separately and is indicated on the mechanical with a red key line; a black holding line is used if this line is to print. Finished art that is presented separately is always keyed to the mechanical with its corresponding circled letter. Notice, too, how crop marks are used and "bleed" is indicated.

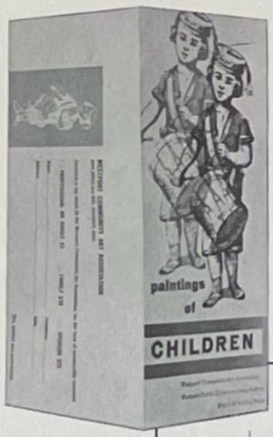


Here are three pieces of art which will appear as silhouette halftones on the printed piece. They have been carefully silhouetted with opaque white, and each piece has been keyed to its corresponding lucy outline on the mechanical. The printer will follow the lucy outline for position and general size, but will take his exact size from the dimensions marked on each piece of art. These photographs have been retouched slightly to correct minor flaws. Some of the very light tones have been darkened along the edges of the silhouetting in the dividers.

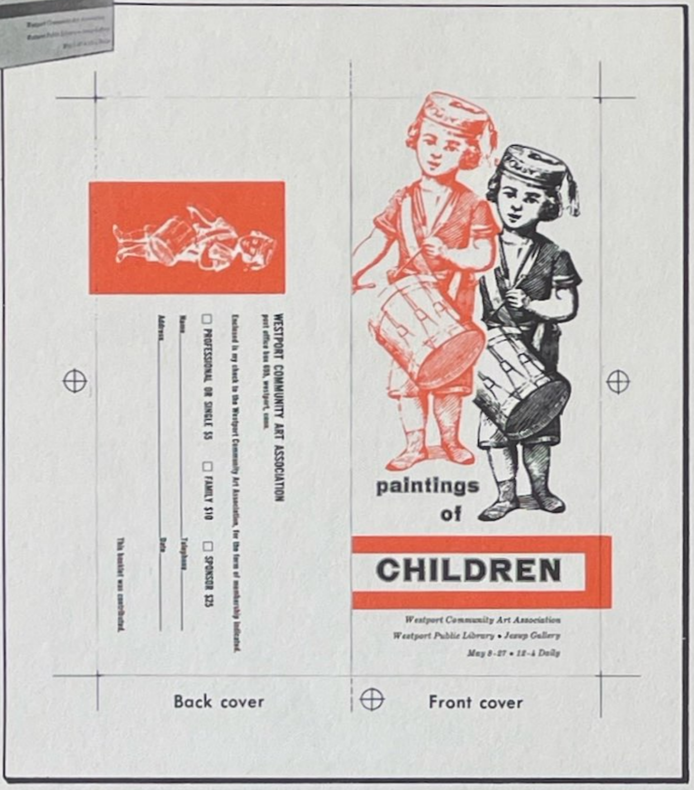


Here four square halftones have been put on one mounting board and cropped, then marked for size. They are keyed to the mechanical and a size has been marked on each. Minor retouching has been done on these photographs.

Four-page folder


paintings
of
CHILDREN

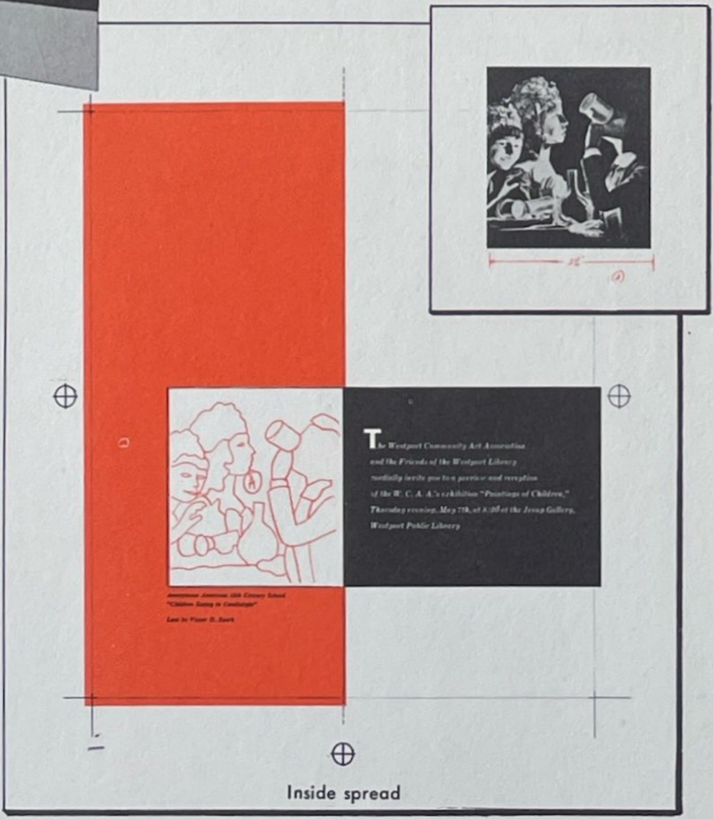
Front and back covers: At the left is a photograph of the front and back covers of a four-page folder, and immediately below is a mechanical for them. Everything that is to appear in black has been cemented on the mechanical, including type and a glossy photostat of the figure at the right. Crop marks indicate the size, and a dotted line in the center indicates where the piece will fold. An overlay is registered over the mechanical for the second color. Everything that prints in red has been placed on this overlay, including a glossy photostat of the left figure on the front cover and a glossy reverse stat for the art on the back cover. A small piece of adhesive Bourges was used for the color bar on the front cover, and a tissue overlay was added to indicate color separation.


WESTPORT COMMUNITY ART ASSOCIATION
post office box 611, westport, conn.
Enclosed is my check to the Westport Community Art Association, for the form of membership indicated.
☐ PROFESSIONAL OR SINGLE $5
☐ FAMILY $10
☐ SPONSOR $25
Name
Telephone
Address
Date
This booklet was contributed.
paintings
of
CHILDREN
Westport Community Art Association
Westport Public Library • Jesup Gallery
May 8-27 • 10-4 Daily

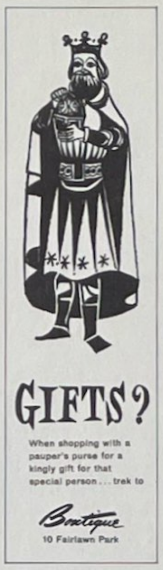
Back cover

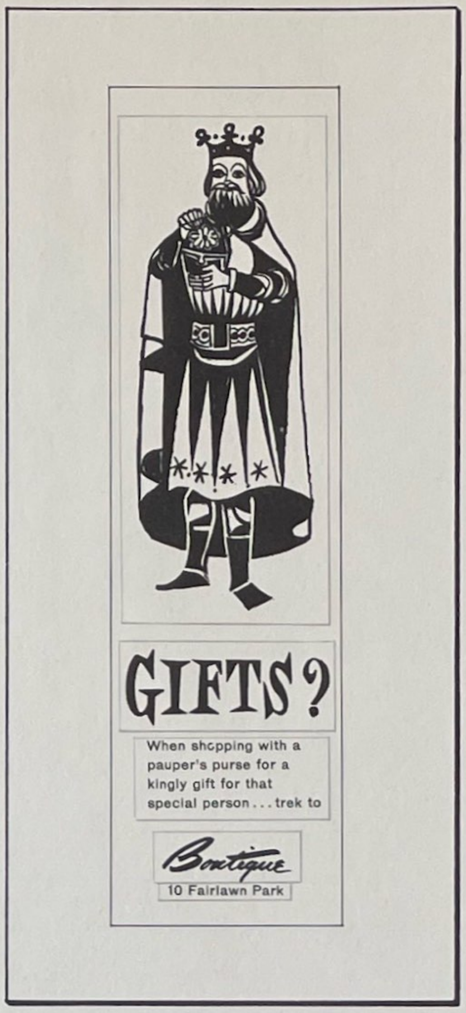
Front cover

Inside spread: At the left is a photograph of the inside of the folder. Immediately below are the mechanical and art work for the inside. Everything that is to appear in black is placed on the mechanical, and a red key line has been ruled to position the illustration. The tonal art is keyed to the mechanical with a circled letter. A reverse stat is used for the type that is printed in reverse. An acetate overlay with register marks was taped over the mechanical and an adhesive Bourges sheet was positioned on this as art for the second color. A tissue overlay was then placed on the mechanical to indicate color separation.


A
The Westport Community Art Association
and the Friends of the Westport Library
cordially invite you to a preview and reception
of the W. C. A. A.'s exhibition "Paintings of Children,"
Thursday evening, May 7th, at 8:30 at the Jesup Gallery,
Westport Public Library

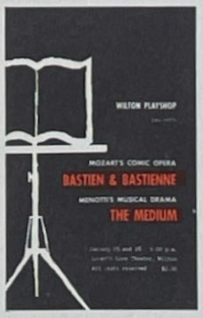
Inside spread

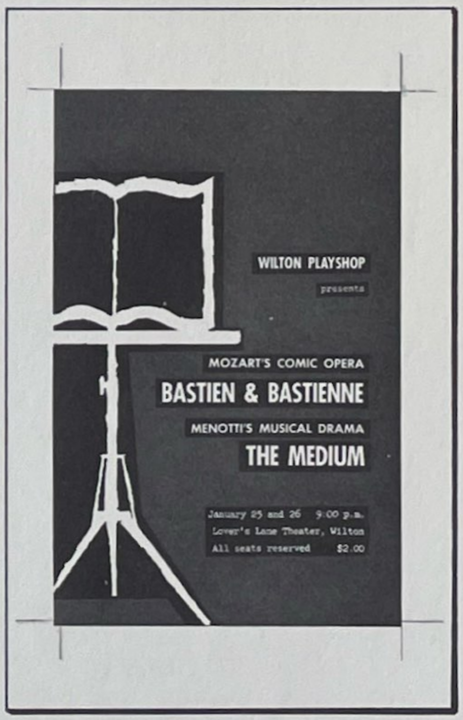

GIFTS?
When shopping with a
pauper's purse for a
kingly gift for that
special person . . . trek to
Boutique
10 Fairlawn Park


GIFTS?
When shopping with a
pauper's purse for a
kingly gift for that
special person . . . trek to
Boutique
10 Fairlawn Park

Small-space ad

At the left is a reproduction of a small-space ad somewhat reduced in size. To the right of this is the mechanical for this ad. First, the ruled line was drawn, then the original line drawing was cemented in position on this mechanical. The lettering for the word "Gifts" was done about twice the required size and reduced in a glossy stat, which was positioned on the mechanical. Below this, a repro proof of the type was placed in position, and then a stat of the store name. The address is in type.


WILTON PLAYSHOP
MOZART'S COMIC OPERA
BASTIEN & BASTIENNE
MENOTTI'S MUSICAL DRAMA
THE MEDIUM


WILTON PLAYSHOP
presents
MOZART'S COMIC OPERA
BASTIEN & BASTIENNE
MENOTTI'S MUSICAL DRAMA
THE MEDIUM
January 25 and 26 9:00 p.m.
Lover's Lane Theater, Wilton
All seats reserved $2.00

Poster

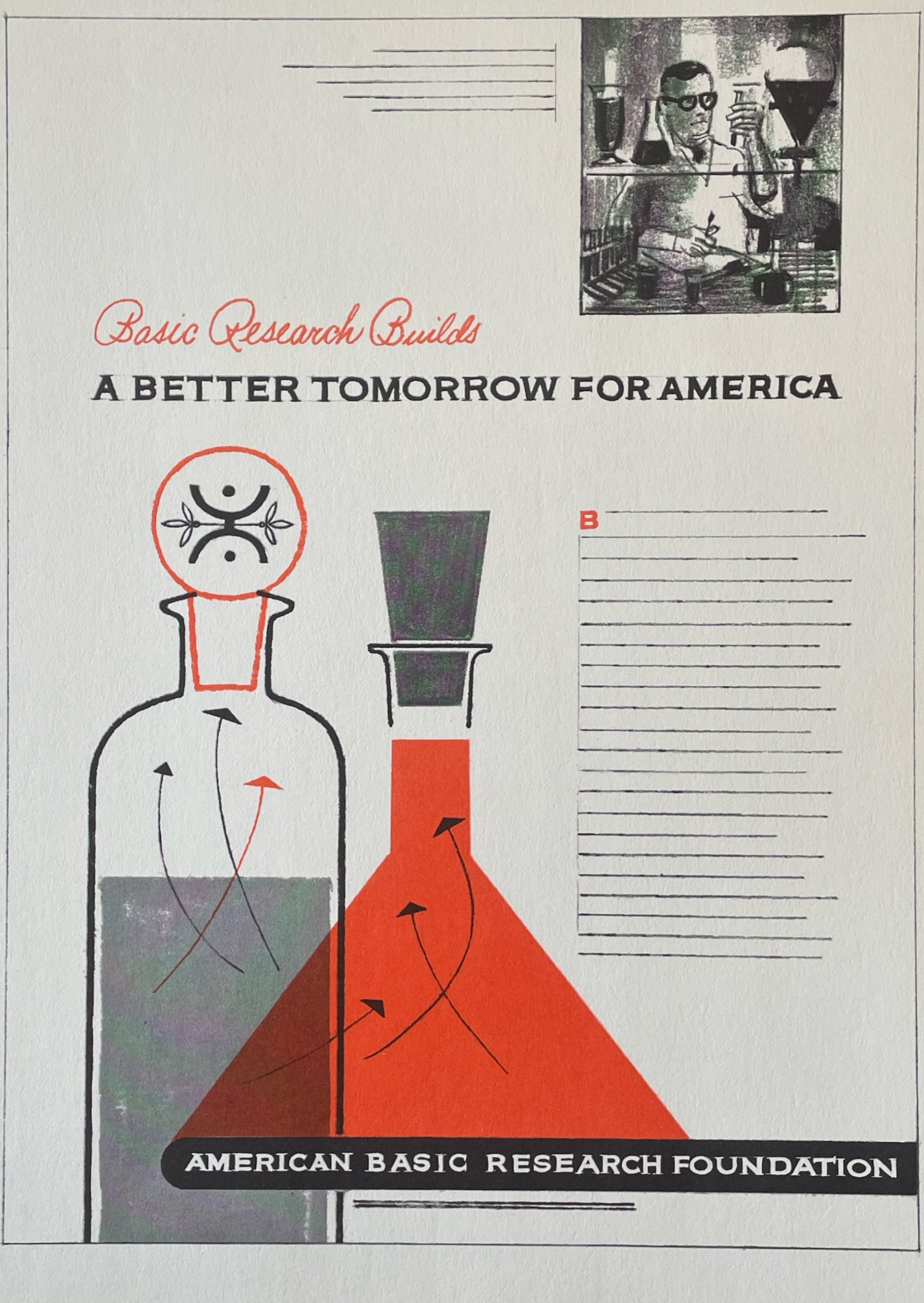
At the left is a reproduction of a two-color poster that was printed in silk screen. To the right is the mechanical for this poster. The poster was printed in white and red on a black card. Notice that the white bleeds at the left and bottom. The drawing of the music stand was made in black ink on white paper, and a reverse stat was positioned on the mechanical. A reverse stat was also used for the type. A tissue overlay was positioned over the mechanical to indicate the color separation to the silk-screen printer.

Plate 1

Lesson 22

Famous Artists Course

Assignment layout


Basic Research Builds
A BETTER TOMORROW FOR AMERICA
B
AMERICAN BASIC RESEARCH FOUNDATION

Type

A BETTER TOMORROW FOR AMERICA

A BETTER TOMORROW FOR AMERICA

Basic research – these two magic words are building a better tomorrow for America. Only where the best minds are free to explore new, promising paths . . . where the imagination is free to soar . . . are major breakthroughs being made today. And nowhere have more breakthroughs been made than in the member laboratories and workshops of the American Basic Research Foundation.

Who supports the American Basic Research Foundation? Over two thousand major corporations, each a leader in its field, contribute to the support of this pioneering effort in basic research. In return, these companies have access to the discoveries of some of the greatest scientific thinkers of our generation – discoveries that have led to the development of great new industries that are building a better tomorrow for America.

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Here, in one of the member laboratories of the American Basic Research Foundation, a chemist is on the trail of a new method of food synthesis.

Here, in one of the member laboratories of the American Basic Research Foundation, a chemist is on the trail of a new method of food synthesis.

WHITESTONE RESEARCH BUILDING, TUSCALOOSA, IOWA

WHITESTONE RESEARCH BUILDING, TUSCALOOSA, IOWA

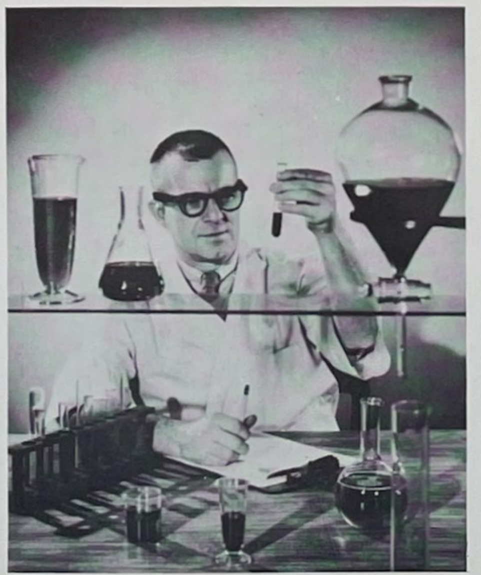
Photostats

AMERICAN BASIC RESEARCH FOUNDATION

AMERICAN BASIC RESEARCH FOUNDATION

Basic Research Builds

Basic Research Builds



FAMOUS ARTISTS COURSE
Student work
Lesson 22
Studio production

HOW TO PRACTICE AND PREPARE FOR THIS LESSON

The purpose of this lesson is to show you how to prepare art work for reproduction. We have explained the main processes of reproduction. If possible, visit your local type shop, engraver, offset, letterpress and silk screen printers. Anything you can do to learn more about printing processes will help you do a better job in preparing your art work for them.

In addition to materials you have used in other lessons, you will need these materials for Lesson 22:

Smooth-finish illustration board -- 1 sheet, 11 x 14 inches. Bainbridge "172" is fine.

Red ink -- red pencil will do.

Treated acetate -- 1 sheet, at least 10 x 12½ inches. Bourges Kleerkote is fine; however, you may use tracing paper or tracing vellum.

Black paper -- 1 sheet 6 x 9 inches, or 100% red Bourges adhesive sheet.

Red pencil.

Light blue pencil.

Wrapping paper for flap -- 1 sheet 11 x 16 inches.

FOR PRACTICE, you may wish to get:

Famous Artists-Bourges Kit -- In addition to materials to try out color separation methods in the lesson, this kit contains treated acetate and adhesive sheet mentioned above.

Do the following practice work before you begin work on the assignment you send in for criticism:

1. Reread the text of the lesson and pay particular attention to the examples in the section "Preparing Art for Reproduction," on pages 8 through 11. These examples will be particularly helpful as a reference on jobs you do in the future.

2. Select several line drawings you have previously done and make color separation overlays as shown in the "Two color -- tight register" demonstration on page 9. Be sure to key the overlays accurately, with register marks, to the drawings beneath. You can either use the prepared adhesive-back register marks or rule your own. (Simply rule little crosses -- you don't need to draw circles as in the prepared marks.) If you don't have treated acetate sheets or tracing vellum, you can use regular clear tracing paper for this practice work.

3. Select a simple tonal drawing and make a "tight register" color separation overlay as shown at the bottom of page 10. Key this with register marks.

4. If you have Bourges materials, try a number of the methods shown on pages 12 through 17. Make several different color overlays over the same drawing to see what different effects you can create, as shown on page 17.

5. Reread and study pages 18 through 23 on "How to Make a Mechanical" and study the examples of mechanicals on pages 24 through 26.

THE ASSIGNMENT YOU ARE TO SEND IN FOR CRITICISM

Your assignment for this lesson is to make a completely color-separated mechanical for the two-color layout on Plate 1.

On Plate 2 are all of the elements you will need to make this mechanical. You will find "photostats" of the hand-lettered section of the headline, the photograph, and the trademark which appears in the bottle stopper. You will also find a reverse photostat of the company name. Also, there are reproduction proofs of the balance of the headline, the caption, the body copy and the address. You will see that each of these elements appears twice -- so you have an extra proof in case you spoil one.

At first glance, the layout on Plate 1 may appear to be very complicated. However, we assure you that it will be easy to do if you simply follow the step-by-step procedure described below. Don't be concerned with how long it may take you to make this mechanical. Speed, in this case, is not as important as accuracy.

AD SPECIFICATIONS. This is a full-page ad. The page size is 8¼ x 11 inches. The mechanical is to be made "same size" -- the actual size the ad would be printed. The ad bleeds 1/8 inch at the top, bottom and right. The photograph bleeds at the top, so extend it 1/8 inch beyond the page size. The company name bleeds at the right, so extend it 1/8 inch to the right and carry the outline and the tint area in the bottle 1/8 inch beyond the bottom

(over, please)

edge where it bleeds. Your assignment is in three parts:

Part 1 is the basic mechanical or flat on which you will cement or draw everything that is to be printed in black. Do this on illustration board.

Part 2 is the color separation overlay on which you place everything that is to print in red. This overlay is tracing paper or acetate or vellum.

Part 3 is the tracing-paper flap on which you indicate your color breakup and write your final directions to the platemaker, and the protective flap which covers the mechanical.

Part 1

A. Tape or tack an 11 x 14-inch piece of smooth-finish illustration board to your drawing board. Now, using your ruler, T-square, triangle, and a light blue pencil, measure an area 8-1/4 x 11 inches in the center of your illustration board and rule the outline for your ad. Then rule a line 1/8 inch beyond the top, bottom and right side to indicate bleed. This will give you an outside size of 8-3/8 x 11-1/4 inches. This piece will become your basic flat.

B. Set your ruling pen to make very fine lines and draw in the crop marks to indicate the corners of the page. (See page 20, No. 8.)

C. Using dividers or a ruler and your light blue pencil, mark on the mechanical the position of all the elements shown in the layout. These marks serve as guides for making the basic flat -- and also for doing the color separation overlay in Part 2.

D. Now begin at the top of the mechanical and indicate the area for your photograph with a red key line. You do this by ruling a red line to the size of the photograph, including 1/8 inch at the top for bleed as in step 6 on page 20. (Because this is an accurately done layout, it will not be necessary for you to rule the key line rectangle on a separate sheet as demonstrated in step 6.)

E. Next, cut out the photostat of the photograph. Trim it about 1/16 inch smaller all around than your red key line and cement it within that red key line for identification. The platemaker will make the photograph to the size shown by the ruled line.

F. The black outlines for the bottle, the top of the flask, and the black arrows can be drawn directly on your flat with brush or pen and ink. Or they can be drawn on a separate sheet of paper and then cemented into position.

G. Rule your red key line to indicate the gray tint area within the bottle, allowing 1/8 inch for bleed at the bottom. Stop the red key line about 1/32 inch short on either side of the black arrows for a clear separation. Then rule the red key lines for the tint areas which form the stopper in the triangular-shaped flask.

H. Next, cement the stat of the trademark into the bottle stopper. Then rule the shape for the company name, "American Basic Research Foundation" (allowing 1/8 inch at the right for bleed), and trim and cement the negative stat of the company name within this shape. See the "Reverse line" demonstration at the bottom of page 9.

I. Finally, cement into position the headline type, the caption, the body copy and the company address. Before cementing the body copy, remember to cut out the boldface capital initial which you will later cement on your overlay, because it is to be printed in red. At this stage everything that is to be printed in black should be on your basic flat.

Part 2

Now comes the separation for the red overlay. For this it is best to use acetate or vellum. However, since this is an assignment, we will allow you to use tracing paper if you do not have acetate or vellum. (Tracing paper should never be used on a job you are doing professionally.)

A. Tape your overlay on top of the basic flat -- and key it to the flat with three pairs of register marks placed about 1/8 inch outside each side and the bottom of your ad.

B. Next, cement the stat of the hand-lettered headline in position on the overlay.

C. Now, on the overlay, draw (with black ink) the red stopper for the bottle and the red arrow.

D. Cut out of black paper the shape of the red flask and cement it to the overlay. Or you can use a 100% red adhesive-back Bourges sheet if you have it. (Step 22, page 22, demonstrates this method.) If you use acetate or vellum, you may prefer to ink the flask shape directly on the overlay. Don't try to use ink in large areas on tracing paper; it will buckle.

E. Cement in the initial capital B which will print in red. You will find small pieces like this are more easily positioned with tweezers. At this point everything which is to appear in the finished ad should be in position on the basic flat and on the overlay.

(Continued)

Part 3

A. Put a tracing-paper flap over your mechanical, fastening it with tape along the top edge.

B. Shade in red pencil or pastel all areas that are to appear in color, such as your headline, the bottle stopper, the arrow, the initial capital and the red flask. If you use pastel, spray it with fixative.

C. With pencil or gray pastel, fill in the gray areas that are to be screened by the platemaker and select a percentage tint to match the layout. Refer to the screen tints on page 5 in this lesson to make your selection, and write this percentage on the tissue overlay within or near the gray area.

D. Where the red bottle overlaps the gray screen tint of the second bottle, you should indicate to the platemaker that the red will overprint the gray. Simply write a brief notation to this effect on that area.

E. Lift both overlays and, with dark pencil or ink, cross out the "stat" of the photograph on the basic flat so that the platemaker would know he must refer to a piece of finished art for that illustration.

F. A protective flap of white bond or brown wrapping paper should now be cemented to the top edge of the back and folded over to cover the entire mechanical as in step 25, page 23. Give the mechanical a final check to make sure everything is in position as the layout calls for.

If you have followed these directions carefully and referred to the section on mechanicals, you should now have a mechanical thoroughly color-separated and ready for the platemaker. Since this mechanical is prepared same size, simply lift the two flaps and the overlay and on the bottom of the basic flat write the letters "SS", which indicate to the platemaker that this mechanical is to be reproduced "same size." If this were a job to be actually reproduced, you would hand him, at the same time, the photograph (keyed to the mechanical by a letter -- see step 24, page 23) from which he would shoot his halftone.

Check
before mailing

IMPORTANT: Be sure to letter your name, address, and student number neatly at the lower left-hand corner of your assignment. In the lower right corner, place the lesson number. Do this lettering on the back of your mechanical.

Your lesson carton should contain:

1 Complete mechanical
1 Return shipping label filled out completely

Mail this carton to:
FAMOUS ARTISTS COURSE, WESTPORT, CONN.